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ORIGINAL ARTICLES.

SEVEN RECENT CASES OF BRAIN-SURGERY.[1]

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THE following cases of operations performed upon the skull and brain for the relief of cerebral disease, occurring since the subject of brain-surgery has developed into an art approaching exactness, will, I think, prove of interest to the Association. Besides these, I have trephined thirty-one times for epilepsy with but one death, but as these operations were undertaken with reference more to supposed injury of the brain from obvious skull-lesions, and not from a consideration of the symptoms, I omit for the present further notice of them, merely calling attention to the fact that twenty-three of them are classified in my *Treatise on Diseases of the Nervous System.*

The cases, however, of which I am now about to speak are of somewhat different character, because not only was the seat of a real or supposed injury a factor in determining where to operate, but the symptoms, their nature and location, were even of more importance in deciding upon the situation of the disease, the consequent point on the skull with which it was in relation, and the extent to which the operation should be carried.

CASE I.—J. V. had several years previously been under my care for epilepsy, the apparent consequence of a blow with a stone received when he was eight years old. The peculiar feature of his disease was that he was a subject of double consciousness, passing suddenly from the normal to the abnormal condition, during which he was apparently in full possession of his reasoning faculties, but of which, when he emerged therefrom, he had no recollection. Upon one occasion he started from New York to go to Indianapolis, but when he came to himself he was in England and had been there for several weeks. During this time he conducted himself in an entirely orderly and rational manner. Upon another occasion he was absent from home for three weeks, and when he recovered his consciousness he was in Baltimore living at a hotel and about entering into negotiations for the purchase of a bookstore. His conduct had been exemplary in every respect. In the interval between these seizures he was subject to the ordinary epileptic attacks both of the grand and petit mal variety. Under the influence of the bromides his attacks were arrested for over a year, but they finally returned, and on my advising an operation he determined to enter my Sanitarium at Washington for the purpose of having it performed.

At this time he was forty-one years of age, large, well-formed, and of good habits. Upon examination a depression was found in the skull, involving the right parietal bone near its posterior superior angle. At this place there was almost constant pain, but there were no symptoms, such as paralysis of motion or of sensibility, referable to any other part of the body. The depression in the bone was an inch and a quarter in length, and I determined that the center of it was immediately over the fissure of Rolando and the horizontal portion of the ascending frontal and the ascending parietal convolutions. I operated on the 15th of April, 1889. Anesthesia was produced by ether. A semicircular incision was made through the scalp, the pericranium raised from the bone, and the trephine applied over the center of the depression. Upon lifting the button of bone it was found that there had been no fracture of the skull and that the dura mater was apparently in a healthy condition. The rongeur was used so that the entire opening in the skull was about an inch and a quarter in diameter. No evidences of disease, however, were discovered. In considering whether or not to open the membranes and expose the brain I was influenced by the consideration of the facts that although the injury to the skull was immediately over the superior part of the ascending frontal and ascending parietal convolutions there were no symptoms involving the power of motion of the upper or lower extremities. I, therefore, came to the conclusion that there was no injury or disease of these convolutions and that it would be inadvisable to expose the brain. Accordingly, the wound was closed without any of the bone being replaced and the patient made a rapid recovery, the whole wound uniting without suppuration. Twice during the subsequent week, the scalp having become puffy, the fluid, consisting of bloody serum, was drawn off by means of a large hypodermatic syringe. Although the patient was better at the Sanitarium at the end of the second week, and remained without pain or seizure for three months, both eventually returned and he is now about in his usual condition. I think that if I had to do this operation over again I should pare off the surface of the convolutions, especially in the light of the subsequently developed fact that there has been no improvement in the patient's condition.

CASE II.—J. H., thirty-five years of age, entered the Sanitarium May 13, 1889, being unable to walk or to lift the right arm; the tendon reflex of knees,

[1] Read before the American Neurological Association, Sept 23, 1891.

especially of the right, was much exaggerated; ankle-clonus was well marked on both sides; voluntary muscular power of right arm and leg was almost entirely abolished, but with sensation apparently unaffected. Upon examining the head a large depression of the bone was found over the left parietal eminence. This was due to a blow from a saber during the war. Subsequently a large piece of bone exfoliated. He remained in comparatively good health until about seven years ago, when he began to drag the right leg in walking and to lose power in the right arm. He occasionally suffered from pain in the head at the seat of the injury. The paralysis of the right arm and leg gradually increased until nearly complete, when he came under my observation. About two years previously to his entering the Sanitarium his voice began to acquire a higher pitch than was natural and there was considerable difficulty of speech due to impairment of the power of the muscles of articulation, especially those of the lips. So far as the mind was concerned, the intellect did not seem to be materially enfeebled, but his emotional faculties were weak, just as they so frequently are in persons that have suffered from cerebral hemorrhage. A slight thing made him shed tears profusely. There was no history of syphilis. I regarded the paralysis of the arm and leg and exaggerated reflexes to be due to degeneration of the left antero-lateral column of the cord, and that there was probably also a corresponding condition in its incipiency involving the right antero-lateral column. In regard to the brain-lesion and the consequent disease I did not venture upon an exact diagnosis, but I was inclined to believe that the membranes had been the seat of inflammation, and that the cortex of the ascending frontal and ascending parietal convolutions had likewise been involved. The difficulty of speech, arising as it did mainly from impaired motor power of the lips, indicated that the center for the movements of these organs, the posterior part of the middle frontal convolution, was likewise implicated. He improved to some extent under treatment, consisting mainly of iodide of potassium and electricity, but this was not sufficient to warrant a hope of cure from such measures, and on May 20th I performed the operation of trephining.

The patient was etherized, and a semilunar incision was made in the scalp. The trephine was applied so as to include the center of the depression, which was about two inches in extent antero-posteriorly, and embracing within its limits parts of the ascending parietal, ascending frontal, and middle frontal convolutions. Several spicules of bone were found adherent to the button removed by the trephine. By means of the rongeur, the opening of the skull was enlarged to about the size of a silver dollar. Several fragments of depressed bone were found united to the portion removed. The opening in the skull now included all of the injured portion. There was a thick mass of false membrane adherent to the bone taken away. This I dissected off, leaving an apparently healthy membrane below. This membranous mass was quite vascular, so that its removal occasioned considerable hemorrhage. A drainage-tube was inserted into the wound at its posterior angle, since, notwithstanding the antiseptic measures employed, I was apprehensive that the necessary violence used might lead to suppuration. Nevertheless, the union was complete throughout by the third day, and the tube and sutures were removed. The patient made a perfect recovery, without fever or inconvenience of any kind.

Almost immediately improvement was manifested both in the paralyzed arm and leg, so that by June 12th he was able to walk fairly well with a cane and could raise his arm to his head. Electricity (faradic) was applied to these parts. The voice had become much stronger, and the movements of the lips were such that he could now speak without stammering. The tendon reflex of the left side was still somewhat exaggerated; the ankle-clonus was materially lessened. He continued to improve until June 17th, when he left the institution sooner than he ought to have gone. I have had no information of a direct character, but have understood that he continued to improve for several weeks after he left the Sanitarium, when he again gradually grew worse.

The beneficial effects of the operation were in this case clearly manifested. Doubtless the involvement of the spinal cord and the motor paralysis were due to pressure exerted upon the ascending parietal, the ascending frontal, and middle frontal convolutions. A second operation might have been advisable.

CASE III.—L. T., female, aged three years, entered the Sanitarium on May 13, 1889, the subject of epilepsy, from which she had suffered about a year, and that had resulted, not only in her inability to acquire a further power of articulation, but in loss of ability to use the words that she had already learned. Though sufficiently intelligent for her age and quick in her movements, there was thus an entire loss of the faculty of speech, and epileptic convulsions occurred about once a month. There was the history of a fall from her nurse's arms, and her mother attributed the convulsions and the loss of speech to the injury of the head then sustained. So far as any marks were concerned there was nothing to show that the skull, or even the scalp, had been injured, but the mother was very clear that the blow had been received on the left side of the head, immediately above the ear. I advised trephining, and, the parents consenting, the operation was performed on May 22, 1889. My object was to trephine the skull at a point about an inch in front of the fissure of Rolando, and about a quarter of an inch above its junction with the fissure of Sylvius, so as to be immediately over the posterior part of the third frontal convolution. No injury of the bone was found, but the portion removed was a quarter of an inch thicker than was normal, so that it doubtless exercised considerable pressure on the brain at that point. The dura mater was apparently healthy.

The wound healed throughout by first intention, without there being the slightest untoward symptoms. The child remained under my constant observation for several weeks. She had no fit during this period, and was beginning to talk when she left

the institution. Improvement in the faculty of speech, as I learned by several letters from her mother, was continuous, and she now (at a little over five years of age) speaks as well as most children of five years old. There has been no convulsion in all this period, and, to all appearance, the child is in perfect health. The last letter from her mother stated that the child's uncle came into the room a few days previously, and remarked jocosely that he was "going to send the girl to Dr. Hammond to have something done to stop her talking."

In this case I do not know to what to attribute the remarkable success of the operation, unless to the fact, as I have stated, that it relieved an existing pressure on the center for articulate speech.

CASE IV.—Miss G. entered my Sanitarium on July 20, 1890, suffering from an old left hemiplegia, epileptic convulsions, mental deterioration, and occasional paroxysms of maniacal excitement. The clinical history is briefly as follows:[1] The patient was nineteen years of age, her father an Italian, her mother an American. The family history was good, the father and mother healthy, and there was no history of syphilis. The patient was born healthy and normal. During an attack of cholera infantum at five weeks of age she became rigid, the arms and legs contracted and flexed, in more pronounced degree on the left side than on the right. The right side recovered, but the left side remained more or less contracted. She had an epileptic attack at five years of age, and another at six. After that the convulsions became more frequent, occurring at intervals of from one to six months.

For the last five years she has exhibited marked symptoms of mental derangement, committing many singular actions and being very passionate, excitable, silly, and weak-minded. Examining her on admission to the Sanitarium, I found that both mind and body were undeveloped. The left hand was in a state of extreme flexure and was permanently contracted. The whole extremity was in a state of atrophy, and there was not a muscle that was not more or less paralyzed. The left lower extremity was in a similar state, though in a much less degree.

The left side of the face was much less mobile than the right.

I gave it as my opinion that she was suffering from a morbid growth of some kind, involving the left parietal lobe and part of the frontal lobe, especially the ascending parietal convolution and the ascending frontal convolution. Though almost hopeless, I expressed my willingness to undertake an operation for the patient's relief.

A horseshoe incision with the convexity directed posteriorly was made; flaps of integument and pericranium were raised and an inch-trephine applied so that the center-pin was fixed on the line of what I had determined to be the course of the fissure of Rolando and about half an inch inferiorly to the sagittal suture. The crown of the instrument was intended to embrace within its limits that portion of the skull immediately over the superior part of the ascending frontal and ascending parietal convolutions.

The button of bone was removed and the dura mater, arachnoid, and pia mater were found to be adherent to each other. A bluish membrane now protruded, very much resembling in appearance the longitudinal sinus. Renewed examination showed that it could not be this vessel, and it was at once punctured with a sharp-pointed bistoury. Immediately a stream of serous fluid, free from odor, spurted out as if from a syringe to a distance of two or three feet, and continued to flow for about ten minutes with diminished force. The wound in the membrane was enlarged to the extent of half an inch and a probe was introduced; it could be passed downward and forward for about two inches without meeting with an obstruction.

A drainage-tube was introduced and at once the fluid began to flow more freely. The tube was introduced along the line of the fissure of Rolando and passed in for three inches without meeting with obstruction. The button of bone was not replaced, but the wound was closed around the drainage-tube, which was left in place and through which fluid still continued to flow.

Soon after being put to bed the patient had a severe chill, which was controlled by applying bags of hot water to the body. On emerging from the state of anesthesia the patient was noisy and excited and complained of some pain in the head. The temperature varied from 100° to 104° on the 28th of July, when she died in a state of coma on the sixth day after the operation.

At the post-mortem examination adhesions were found to exist between the right frontal lobe and the frontal bone; there was also thickening of the dura mater throughout the course of the longitudinal sinus, extending for about an inch on each side. Nearly the whole of the right parietal lobe and upper and posterior part of the frontal lobe seemed to have disappeared, for the membranes were greatly collapsed. The membranes were found thickened throughout their whole extent and were strongly adherent to the base of the skull and to each other. A cyst was found coëxistent with nearly the whole right parietal lobe, the convolutions of which portion had entirely disappeared. The ascending frontal convolution, except its inferior and horizontal portion, was also absent; otherwise the frontal lobe was in good condition. The anterior portion of the occipital lobe was also implicated, so that a portion of the middle and inferior convolutions had disappeared. Inferiorly it was ascertained that the cyst involved the temporal lobe, and that the superior temporal convolution and about one-half of the middle temporal convolution were absent. Further examination showed that not a vestige of the island of Reil remained, that the anterior and external thirds of the caudate nucleus and a like portion of the lenticular nucleus of the corpus striatum were absent, and that the internal capsule was greatly atrophied. Continuing the dissection, it was discovered that

[1] The report of this case in full will be found in the New York Medical Journal of September 27, 1890.

the cyst was separated from the lateral ventricle anteriorly by a very thin lamina of cerebral tissue.

A second cyst of about the size of a large almond and involving the inferior convolution was also found to exist. There were no cerebritis, no recent meningitis, and no hemorrhage.

It is thus seen that the diagnosis was substantially correct, though the lesion was much more extensive than there was any reason to suspect. Probably the original disease was an extensive meningitis, the arachnoid being especially implicated in the regions where the cysts were discovered. It is certainly remarkable that life should persist for nearly nineteen years under such a condition of brain-disease. The fact of the destruction of the island of Reil is interesting in connection with the circumstance that it was on the right side and that there had been little speech-disturbance. In other respects it is seen that the case is strikingly corroborative of the doctrine of cerebral localization as laid down by Nothnagel, Ferrier, Exner, and others.

In regard to the cause of death I have no very satisfactory explanation to offer. The patient had fully recovered from the shock of the operation, there was no recent inflammatory action anywhere in the brain or its membranes, and the wound was in a perfectly healthy condition, the scalp having united, as I have said, throughout nearly its whole extent. An examination of the lungs and kidneys was not permitted, but there is no room for thinking that these organs were in a state of disease.

CASE V.—T. K., thirty-eight years of age, entered the Sanitarium October 8, 1890, suffering from epileptic convulsions and partial paralysis of the left upper and lower extremities. Twenty years previously he had fallen from a height upon a marble floor and sustained a fracture of the skull involving the posterior superior angle of the right parietal bone. No operation was performed at the time, but several pieces of bone came away spontaneously, so that when he came under my notice there was a fissure in the skull at the point indicated, irregularly triangular in shape and about the size of a half-dollar coin. There was a good deal of cicatricial tissue and the scalp was depressed at its lowest depth, fully a quarter of an inch below the level of the surrounding parts.

He entered the Sanitarium for the purpose of having the operation of trephining performed, understanding perfectly that the operation might not only prove unsuccessful in relieving him of his symptoms, but might also result in his death. I was under the impression that there was a cyst at the point of injury, and that this was covered by the brain and scalp at the parts where the bone was deficient, and that possibly there were some fragments of bone that ought to be removed. A semilunar incision with its convexity directed forward was made in the scalp, and the crown of the trephine was applied to the bone so that its edge not quite touched the lower border of the fissure. The removal of the button of bone was followed by a gush of serous fluid, and by passing a probe in all directions I then discovered that there was no brain-injury in contact with the scalp, nor with the skull to the extent of over an inch in circumference from the opening made by the trephine. As a result of the original injury, therefore, there had been a large loss of brain-substance, and I had opened a cyst, the walls of which consisted externally of the cerebral membranes, the skull, and the scalp. Judging from the large amount of fluid that exuded, I had no doubt that this cyst communicated with the lateral ventricle.

The patient rallied from the operation, but became very weak and faint shortly afterward—the result, doubtless, of the loss of so large a quantity of cerebro-spinal fluid. I, therefore, removed the drainage-tube which had been inserted and closed up the wound throughout its whole extent. By the third day it had entirely united by the first intention; the fluid, however, continued to increase in quantity so that it was necessary to tap the scalp several times in order to drain it off. Coincidentally with this, increased somnolence, approaching stupor, was developed, but this condition disappeared at once on the evacuation of the fluid. At no time during the course of treatment were there any evidences of inflammation, but the patient continued to grow weaker and at times was slightly delirious, though he improved to such an extent that he was able to sit up and take a drive of several miles into the country. He gradually sank until he died, November 28th, fifty days after the operation, and apparently from sheer exhaustion. He had no convulsion after the operation, but there was no improvement in the paralysis either of the upper or lower extremity. The only other change observed was a remarkable slowness of speech, a sort of staccato articulation, but there was at no time any indication of aphasia. The cyst was rather superficial, but it was about two inches and a half in its horizontal diameter and three inches and a half in its vertical diameter.

CASE VI.—W. H., twenty-eight years of age, entered the Sanitarium October 21, 1890, suffering from left hemiplegia, epilepsy, and imbecility. The diagnosis in this case was cerebral syphilis, and he was treated with large doses of iodide of potassium, hot douches to the spine, and electricity. The iodide was carried to the extent of half an ounce three times a day. He improved from the very beginning of the treatment, and on January 18th went to his home in Texas free from all abnormal symptoms. He had had no convulsions in all this time, although they had previously occurred at the rate of two or three every week. The hemiplegia entirely disappeared and his mind was restored to its naturally good condition. My opinion was that he was suffering from a gummatous tumor of the cerebral cortex involving the ascending frontal and ascending parietal convolutions, and that under the use of the iodide of potassium absorption had taken place. But in March, 1891, all the symptoms gradually returned and he was again brought to the Sanitarium for treatment and entered the institution May 30th. At this time he was the subject of repeated convulsions, he was unable to walk from complete paralysis of the left lower extremity, and from like cause the arm was entirely helpless. His mind was a

complete blank, and at times he was distinctly maniacal. He could not give an intelligent answer to any question, and exhibited all the indications of suffering severe pain in the head, apparently on the right side. I at once began the administration of the iodide of potassium, though it was not carried up to the extent of over two hundred grains three times a day, but without benefit, the symptoms persisting in all their original intensity. I therefore determined to trephine him so as to expose the centers for motion of the left upper and lower extremities, namely, the right ascending frontal and ascending parietal convolutions. On removing the button of bone and laying open the dura mater the membranes were seen to be opalescent and a small quantity of serous fluid escaped. As there were no indications of a growth at this point, and as the revealed condition was such as would probably be relieved by the operation, I decided not to proceed further. The wound was, therefore, closed, and it united entirely by first intention without the occurrence of a single untoward symptom.

The patient began to improve at once, mentally and physically, and on August 15th returned home as well as he had ever been in his life.

The success of the operation in this case was marked, but was due, not as I supposed it might be, to the removal of a morbid growth, but to the relief which it gave to the pressure exerted upon the brain by the inflamed membranes, and the small amount of fluid that had collected. Whether or not the improvement will continue is, of course, a matter of conjecture; but, as a measure of precaution, I have instructed the man to use the iodide of potassium in large doses every alternate month during the next two or three years.

I regard this case as most instructive, because I have no doubt that the condition discovered bore the relation of a cause to the symptoms; and that such cases can be relieved by the comparatively safe operation of trephining is a point in cerebral pathology and cerebral surgery of very great interest.

CASE VII.—W. K., twenty-eight years old, entered the Sanitarium originally on December 19, 1890, suffering from a constant, dull, heavy ache in the occipital region, with occasional attacks of vertigo. The pain was so severe in character as utterly to unfit him for his business, and he had been compelled to refrain from all mental work. He had suffered for over two years when he came under my observation. Examination showed the kidneys to be healthy, and that there were no disturbances of sensation or motility in any other parts of the body. Speech was unaffected, and the intellect was unimpaired in all its parts. Seven years previously he had been struck by a stone in the right frontal region, about an inch above the supra-orbital ridge, and a cicatrix and a depression existed at this point. He was stunned by the blow, and was insensible for several days, but made a good recovery without an operation. There was no pain in this region, however, and I did not associate the injury with the pain in the back of the head from which he suffered. No treatment, however, that I gave him proved of the slightest benefit, though I continued it for several months after he left the institution.

But, on reflecting upon the case, I resolved to submit to him the propriety of an operation, and, with a full knowledge of the uncertainty of the result, he at once consented to have me trephine the skull at the point of injury. He therefore reëntered the Sanitarium on July 30, 1891, and on August 2d I operated. On raising the button of bone that corresponded with the most depressed portion of the cicatrix, I discovered a large spicule of bone attached thereto. Passing a probe between the skull and the dura mater around the opening, I could discover no other evidences of fracture, but there was a mass of highly vascular membranous tissue, from the necessary injury of which some two ounces of blood were lost, and I was obliged to ligate a vein as large as a crow-quill, from which the blood was flowing in full stream. I was afraid to remove this mass with the knife on account of the hemorrhage that I knew would result, and, moreover, I found that the bleeding had caused it to shrink to a great extent. But, with the fingers and the handle of the scalpel, I detached the greater part of it and then closed the wound. By the third day the union was complete throughout and the patient at once expressed himself as being greatly relieved. On the fourth day I allowed him to leave his bed, and on August 13th he returned home, relieved, but by no means cured. A letter, however, received from him a few days since, states that the improvement has continued, that the pain has almost entirely disappeared, that he feels mentally bright and active, and is desirous of resuming his business.

This case is also extremely interesting, and the success obtained is in the highest degree instructive. If the symptoms from which this patient suffered had been such as to endanger his life, or had been more extensive than they were, I should have removed a greater portion of the skull and carried my exploration much further than I did, but I did not consider myself justified in thus seriously increasing the risk of a fatal result for the relief of mere pain.

NOTE UPON A POSSIBLE SERVICE TO BE EXPECTED FROM DIURETIN IN GENITO-URINARY SURGERY.[1]

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OUTSIDE of the usual complications liable to attend any cutting operation, the surgeon who deals with the genito-urinary tract has to contemplate, and if possible guard against, that other mysterious concomitant of operations upon the urethra and

[1] Read at the meeting of the American Association of Andrology and Syphilology, held in Washington, September 22–25, 1891.

bladder, known under various names, and often called "urinary fever."

The theories about it are numerous. In the present connection it does not interest us to ascribe it to urinary intoxication, shock, kidney-congestion, or to any special cause. It exists. We all recognize it, we all fear it, and—I speak for myself—we do not thoroughly understand it. Let me illustrate: Of a considerable number of supra-pubic, perineal, and urethral operations, performed during the past year, I have lost only one. Many of the cases were, to all appearances, infinitely more desperate than this one. A number of them had albumin, casts, pus, and blood without stint, in the urine; yet all other cases recovered. This fatal one was in an old gentleman, the father of a prominent physician. His urine was as clear as crystal and free from albumin, and his bladder contained no pus. A year before my operation he had his urethra divulsed up to an enormous size, and very large sounds were used without a chill or any bad symptoms. His life, however, had become a burden by reason of the necessity for repeated use of the catheter. The cystoscope showed a minute third lobe, with a moderately healthy bladder. I cut this patient above the pubes. I nipped off his minute third lobe, which stuck up as large as a small marble in the internal urethral orifice. There was no bleeding; he took a moderate amount of the anesthetic; he had been catheterized constantly and divulsed before without accident, yet, within half an hour after my operation, he had a chill and absolute suppression, from which he never rallied. This was, I believe, pernicious urinary fever. Why did he have it? I do not know, nor can anyone tell me to my satisfaction. I did not give this patient diuretin. I did not know about it at the date of my operation upon him.

To prevent urinary fever various things have been done: all kinds of preparation of the patient, and the use of drugs—notably aconite, pilocarpine, quinine, etc.—ordered. I never thought well of aconite; I did once confide in pilocarpine, but gave it up. I have long since ceased to use quinine; I now never administer it before an operation, believing it to be absolutely devoid of value. Local urethral antisepsis I believe to be also much overrated. Germ-killing in the various urinary passages is a praiseworthy pursuit, but perhaps more difficult than those who pretend to follow it conceive it to be. There are two methods, one of which tries to render the passages pure by antiseptic irrigation from below; the other essays to purify the stream at its source, by the administration of various substances, notably salol, boric acid, naphthalin, saccharin, the benzoates, etc. Added to this, the instruments are disinfected, and then the requirements of modern surgery have been complied with—yet none of these methods secures us against urinary fever. They doubtless aid in so doing, and are useful as far as they go. Cleanliness and disinfection are as essential now to successful surgery as anatomical knowledge, manual dexterity, and general experience—but none of these is final in eliminating the possibility of urinary fever. Instruments and hands can be perfectly disinfected, the urine and the urinary passages not so. Albarran,[1] Guyon's first and very able assistant, has shown that the urine passed by patients who have absorbed large quantities of salol has no bactericidal power, and contains pathogenic microbes. Lavaux's conclusions, derived from experiments in washing the urethra, are not based upon bacteriological examinations, and therefore lack convincing value, as pointed out by Petit and Wasserman[2] in their study of urethral antisepsis. These gentlemen, at the instigation of Guyon, undertook some experiments in urethral antisepsis by the direct method, and inoculated bouillon tubes with mucus taken from the urethra after thorough irrigation with sterilized water, 4 per cent. boric acid, and 1:1000 nitrate of silver. In every instance the inoculated tubes showed numerous microörganisms at the end of a week. These gentlemen, therefore, concluded, from a laboratory standpoint, that irrigation as ordinarily practised is without reliable value, even if continued half an hour, in that it does not secure complete asepsis of the urethra.

Yet this conclusion need not dishearten us. Why should we expect to wash out all the germs from a canal so permeated with glandular ducts, each one capable of holding enough bacteria to poison an army. As well may one decry the value of the mercuric bichloride against the gonococcus, because it does not kill them all at a single application—a manifest impossibility, since they are protected in the depths of the tissues and in the glandular follicles.

But this article is not to detract from the value of the means that we have to render urethral and bladder surgery more safe. It is to suggest another, in the hope that there may be value in it.

In June last I went to a city near New York to take a large stone from the bladder of an old gentleman, and at the same time to remove an outstanding third lobe. His case was desperate. He had suffered long, and for four years he had been an invalid, spending most of the last year in bed, taking opium suppositories, and passing his catheter hourly sometimes, and again at longer intervals. He could not urinate at all without the catheter. I cut this patient above the pubes, and took out a stone as large as an egg and a prostatic third lobe as large as the last joint of the thumb. The bladder was thin-

[1] Ann. des Mal. des Org. Génito-urinaires, January, 1890.
[2] Ibid., July, 1891.

walled, corrugated, trabeculated, and sacculated. I put my finger into holes on each side which seemed like ureteral orifices, but did not stop to investigate closely. They could not have been orifices of the ureters, because these are closed even when the ducts are enormously dilated. His urine had been like gruel, full of albumin and all sorts of detritus. There was no question of there being dilated ureters, pyelitis, and more or less interstitial nephritis on both sides. The operation was done simply because it had to be done in compassion for the old man's sufferings. The outlook was desperate.

I thought, then, of trying diuretin, and telephoned for it before the patient recovered from his anesthetic, ordering 10 grains to be given at once, and frequently repeated. This patient got well. He had considerable nausea from morphine given hypodermatically, but no chill and no suppression, and his physician, Dr. Tieste, writes, on September 1st, that "he is able to hold his water from five to seven hours, and to pass it without a catheter, a thing that he has been unable to do for three years."

Since that time I have used diuretin in every case of urethral or bladder operation that has fallen under my hands. I give 60 grains of salol per day for forty-eight hours before operating, and commence diuretin on the day of the operation, giving it also in doses of 10 grains every four hours for forty-eight hours. I, of course, irrigate the bladder and urethra; I did this before, but my results have been better since using the diuretin. If this is a coincidence, time will demonstrate it; if not, it is proper that this Association should have an opportunity to experiment, and either verify diuretin as an adjuvant to urethral and bladder surgery, or prove its lack of value. I do not here assert that it has great value, or any, but I do state that it does no harm, and that since commencing to employ it, now less than three months, I have used it in every major operation that I have performed, and my assistant, Dr. Fuller, has used it twice, and in no instance has there been any urinary fever proper—that is, there never has been a chill or a suppression. The cases cover all ages from eighteen to eighty, with desperate complications, such as pyelitis, urine loaded with albumin and casts, diabetes, etc. Patients have had shock, fever sometimes, and various complications, but never chill or suppression. The number operated on is 13; not large, it is true, but it was in the summer season, and all were private patients. The time is too short for generalization, but when it is remembered that the cases were: Supra-pubic prostatectomy, 6; supra-pubic lithotomy (diabetes), 1; perineal section, 3; perineal section without guide, 2; litholapaxy, 1; mostly in old men with damaged kidneys, all of whom recovered without chill or any tendency to suppression, it is fair to imagine that the means used had something to do with it, and the diuretin is the only new drug. In three of the cases there was profound shock after the chloroform (which I now always use), but the kidneys acted all along.

Was it the diuretin that did the service? I do not know. Time must decide.

Diuretin being a new substance, I may briefly say that it is theobromine and salicylate of soda (a combination sometimes ascribed to Gram, of Copenhagen), a white powder of sweetish, saline, alkaline taste. E. Merck, of Darmstadt, first manufactured it at the instance of Prof. Riegel, of Giessen University, some time prior to 1890. It is soluble in hot water and in warm diluted alcohol. The same or a similar salt was first brought out in the *Apotheke Zeitung*, December 14, 1889, under the name of diuretin. This is believed to contain 50 per cent. of theobromine, and is soluble with heat in half its weight of water, remaining in solution on cooling. Theobromine is the alkaloid obtained from the seeds of theobroma cacao, and is also found in the kola nut. It is related to caffeine, the latter being the methyl derivative of theobromine.

Diuretin appears to be a free diuretic, seemingly pretty constant in its action. It does not irritate the stomach, bowels, or nerves, and does not depress a weak heart. Reports about it therapeutically vary, as is natural in the case of all new drugs, but it seems safe, and worthy of trial in order to see what it will do. The dose is 10 to 15 grains often repeated, to 90 or even 120 grains a day, given in powder or in pill form—preferably gelatin-coated pill, as the powder deteriorates on exposure. If it will prevent, or even moderate urinary fever, it is a valuable drug. I hope to report a more extended experience with it next year.

REPORT OF TWO CASES OF EPILEPSY, WITH ALBUMINURIA, MISTAKEN FOR UREMIC CONVULSIONS.[1]

By JAMES TYSON, M.D.,
PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.

It has happened to me twice in a comparatively short time to be consulted in two cases of convulsions, associated with albuminuria, which were supposed to be uremic, but which proved to be true epileptic fits. The albuminuria in each case was responsible for the diagnosis made. In one of these cases two well-trained physicians were misled for a considerable time, and I held a like opinion with them until, in the course of a more prolonged study of the case, the truth dawned upon me. The second case was not so misleading from the outset, and with the light of my first case was easily recognized.

[1] Read at the sixth annual meeting of the Association of American Physicians held at Washington, September, 1891.

The first patient was a married woman, aged fifty, who had had one child, a girl sixteen years old, at the time the case came under my notice. There was no sign of renal trouble during pregnancy, and no complication during or after labor. An aunt on the mother's side died of tuberculous phthisis, and an aunt on the father's side of rapid consumption. The patient had one brother who was a confirmed epileptic. When seventeen years old, Mrs. H. had cough and hemorrhages, said to be from the lungs, for which she was treated with cod-liver oil. They ceased, and no other allied symptoms presented themselves. A few years before the illness about to be considered, she spat blood several times, but as she was approaching her climacteric her brother, who was a medical man, was not alarmed. In 1885 she had a spell of simple dysuria, the first in her life, which also passed off without any untoward effect apparent at the time.

On Saturday, December 11, 1886, she was attacked with severe headache, accompanied by great nausea. The headache was such as she had never before experienced. It continued for three days, but gradually abated, and by the 15th had nearly disappeared. At 8 o'clock on the evening of this day, however, she had a severe convulsion, during which she bit her tongue. She had a second at 12 o'clock, a third at 2 o'clock, and a fourth at 4 o'clock in the morning. The convulsions were controlled by chloroform, used as seemed to be required.

The urine at this time was scanty, contained a small amount of albumin and some pus, but no tube-casts were found. The convulsions were regarded as uremic, and she was placed upon a milk diet.

I was consulted concerning her on January 20th following (1887), when the urine was first sent to me for examination. It was a pale-yellow fluid, with a sp. gr. of 1015, feebly acid; contained a mere trace of albumin, and a small white sediment composed of pus and vaginal epithelium. No casts were found. I did not see her, however, until February 2, 1887, with Dr. William Savery and Dr. John W. Lodge. She was in bed for greater convenience of examination, but had been up, and, indeed, had not the aspect of a sick woman. Since her attack on December 15th she had been on a milk diet. The urine examined at this time (February 2d) was 1010, again contained a trace of albumin, and in the course of examining six slides I found two hyaline casts and one granular cast.

She continued to improve in general health without incident until a day or two previous to the 12th of March, when she had another attack of headache, less severe than the first, but accompanied by dizziness and noise in the ears. These symptoms gave rise to some apprehension, but were not followed by anything more serious. The urine was again examined; at this time it had a sp. gr. of 1015, contained a very decided sediment of pus, fully $\frac{1}{15}$ its bulk; again there was a very small quantity of albumin, but slightly more than at the previous examinations, $\frac{1}{60}$ the bulk being noted. The increased albumin was reasonably explained by the increased amount of pus. In addition to the pus-cells there were a few columnar cells, but no casts were found.

In the latter part of July, Mrs. H. had a rather severe attack of diarrhea, in which I attended her, on account of the absence of her brother. It was ushered in by a sharp headache, and as this had been the forerunner of her first attack of convulsions some apprehension was again felt, and it was thought best not to check it too suddenly. No convulsion occurred, but after she had recovered, and was sitting up, her daughter described a sudden momentary unconsciousness, during which a fall was arrested by her opportune presence. This was on the 27th of August, 1887. An examination of the urine at this time discovered a sp. gr. of 1017, the same flocculent sediment composed of pus-cells and epithelium, a single undoubted hyaline cast, and the same small quantity of albumin.

On November 20th, she had a severe fit, on account of which I was called, but she had come out of it by the time I reached her, being still, however, somewhat dazed. I saw her several times in the course of a couple of days, but there was no recurrence of the fit for nearly a year (September 20, 1888), although there was what was called "a threatening" a few days earlier. Another fit occurred December 22, 1888, April 8, 1889, and again December 6, 1889.

In the latter part of June, 1890, Mrs. H.'s attention was attracted by the presence of blood in her urine, unattended at first by other symptoms. The hemorrhage continued until June 28th, when it had become quite copious. In my absence from the country, my friend, Dr. Horace Williams, was called. To the hematuria was added now severe pain over the region of the bladder and in the right flank. The urine, loaded with blood, became also very scanty, as small a twenty-four-hours' quantity as twelve ounces being recorded.

Just when the bloody urine was assuming a brownish tint, the blood becoming replaced by pus, she had a slight chill, about 6.30 on the morning of the 2d of July, and at 5 o'clock the next morning a terrific chill, the temperature running up to 104.8°. By evening of the same day the temperature had fallen to 100.6° F., and by the next morning was normal. All the symptoms then began to subside, and on the 9th of July she was sitting up. During the entire period of her serious illness there was no suggestion of a convulsion, while the ninety grains of potassium bromide which she had been taking daily for months had been discontinued, and at the end of ten days, when she was deemed thoroughly convalescent, she had a single epileptiform convulsion. About August 1st, she went to Wernersville, Pa., and while there, on August 18th, had a single typical convulsion, and two days later what the family called "a threatening," in which she lost consciousness for a few seconds only—analogous to other minor attacks referred to.

She, however, rapidly regained her health; and on examination of her urine by myself, September 23, 1890, it exhibited the same small sediment of pus and trace of albumin. Another examination in July revealed the same state of affairs. After the

bromide was recommenced in the summer of 1890, she continued taking thirty grains three times a day.

On the 16th of June of this year I was sent for to see Mrs. H., because of a suspected attack of the usual kind, although she seemed not to have lost consciousness. There was no sign of anything wrong when I reached her. She is now apparently in good health, but has a shrinking, gentle manner which seems to me more or less characteristic of epileptics.

The second patient alluded to, also a woman, Mrs. R., was forty-eight years old, and had four children. Her father died of apoplexy, and her mother of a tumor of the stomach. In childhood she had an attack of diphtheria, and was subject to sore-throat. Seventeen years ago, at the birth of her second child, there was albuminuria, but no other serious symptom, and the albumin soon disappeared from the urine. It, however, returned from time to time, but in the meantime a third child was born without albumin being discovered, and without other complication. No albuminuria was reported in her third pregnancy, nor in her fourth; but four months after the birth of her fourth and last child, and while in apparently perfect health, she had her first convulsion. This was eleven years ago. The fit was a very slight one, lasting but a few seconds; there was twitching and a smacking of lips, but she was scarcely unconscious. During the seven years that followed, she had about half a dozen more fits at odd intervals. In the four years subsequently she had none until January 1, 1890, when she had a very severe one, preceded by what she calls dizziness, possibly an aura. From that date to September 12th, when I first saw her, she had no convulsion, nor has she had any to date.

At the suggestion of Dr. Brush she called upon me in September, 1890, and I elicited the above history. She described most of the attacks as being very short, and as consisting largely of what she described as a peculiar sensation lasting not more than a minute, during which she could hear her own voice making imperfect efforts at speech. The inability to speak properly continued several minutes after consciousness returned.

Her object in consulting me was to determine the nature of these attacks, the more especially as a distinguished member of this Association, whom she consulted in 1880, said she had Bright's disease, and would not live more than two years, probably only one. Ten years later she consulted Dr. Bartholow, of Philadelphia, who said that the attacks were epileptic. This view was held also by Dr. Brush, who sent her to me for an opinion.

In September, 1890, the evening and morning urine were examined on two separate occasions by myself, and each time a trace of albumin was found, but no sediment of any significance. The twenty-four-hours' urine ranged from forty to fifty-four ounces.

Under the circumstances, I did not hesitate to declare the peculiar seizures to be epileptic, and that the albuminuria had nothing to do with them. With regard to the milder attacks, the question might indeed be raised as to whether they may not have been hysteroidal attacks, of which Dr. H. C. Wood says: "They seem to be very close to epilepsy, and also to hysteria." And, like these, their true character is to be determined by the history of the case and the occurrence of more severe attacks of undoubted epileptic character in the present instance. A recent letter from Mrs. R. informs me that she had none since the violent attack of January, 1890, although she had during the past winter the "dizzy turns" described.

In further illustration of the possibilities of the situation, my friend, Dr. J. Hendrie Lloyd, related to me lately his experience with a similar case. Toward bedtime one night he was sent for in great haste by the servants to see the head of a family with the ills of all the members of which he had supposed himself well acquainted. Responding promptly, he found the gentleman, who was past middle life, in terrific convulsions, which he at once concluded were uremic. No others of the family except the servants were at home, and he could obtain no information. One attack succeeded another at close intervals, during which the patient lay in a comatose or semi-comatose state. My friend was, however, able between two paroxysms to secure a specimen of urine. Hasty examination failed to discover albumin, but the constant association of contracted kidney with small and scarcely detectable albuminurias, only went to confirm his conclusion that he had to do with a case of uremic convulsions. He remained throughout the night. The patient's wife was expected early in the morning, and he dreaded to meet her because of the sad prognosis he felt forced to make to her. He, however, gravely informed her of what had transpired, and she replied nonchalantly that he had been having similar attacks for twenty-five years!

Is there any way of avoiding similar errors? So far as any peculiarity of the convulsions themselves is concerned, I believe not. Uremic convulsions differ in no way from epileptic convulsions. They are, in fact, typical epileptic convulsions, and exhibit the same varieties and degrees presented by such convulsions. In both, the tongue is lacerated, both exhibit a degree of violence at once alarming and revolting. On the other hand, both may be so mild as to be barely noticeable, and both may be followed by periods of stupor of longer or shorter duration, or by a sudden return to the natural state. But true uremic convulsions do not repeat themselves at intervals for months and even years at a time, and yet leave the patient apparently no worse for his or her experience. And if true epileptic convulsions happen to be accompanied by albuminuria, such albuminuria does not, as a rule, remain at a stand-

still or grow gradually less, but increases and is gradually associated with other phenomena of chronic Bright's disease, such as hypertrophy of the left ventricle, edema, visual derangements, headache, high vascular tension, dyspeptic symptoms. When a history is obtainable of previous attack, it will generally be found that there has been a harmlessness of consequences following the pure epileptic convulsion which does not belong to the uremic fit.

CONGENITAL CLUB-FOOT, WITH ABSENCE OF THE GREAT TOE AND CONTIGUOUS BONES OF THE RIGHT INSTEP.[1]

BY T. M. L. CHRYSTIE, M.D.,
OF NEW YORK.

THE case herewith reported is of interest by its bearing upon the causation of congenital talipes of the equino-varus variety, since there are absent the parts that are supposed to produce the varus deformity of the tarsal arch or instep. The twist or varus of congenital talipes is said to be due to the drawing of the inner side of the foot upward and backward toward the leg by the contraction of the two tibial muscles, the tendons of which passing respectively in front of and behind the inner malleolus are inserted at the inner margin of the sole of the foot; the tendon of the tibialis posticus being inserted at the inner and under surfaces of the scaphoid and internal cuneiform bones, and that of the tibialis anticus at the inner and under surfaces of the internal cuneiform bone and the base of the metatarsal bone of the great toe. In this case, these muscles, as well as the bones (except the scaphoid) affording them attachments, are absent, yet, as shown by the photographs, there is an otherwise typical case of the deformity, the correction of which had been unsuccessfully attempted by at least two skilled medical men during more than two years.

The child was brought February 14, 1891, aged two years and five months. He was carried, though I was told he could walk while wearing a shoe into which was incorporated a steel structure; but in a few hours the use of this made the apex of the varus too sore to be continued. The deformity of the foot attracted so much attention that the presence of only four toes was not usually noticed. The gastrocnemius was extremely and firmly contracted, but the front part of the foot was so twisted upward and inward that the patient, by placing the foot in advance and throwing back the knee, could rest his weight on the posterior part of the foot sufficient to steady his body, but not securely enough to stand or walk. His efforts in this direction were damaging the knee and upper part of the limb. Absence of the first row of the phalangeal bones and the first shaft of the metatarsus was made out at the first examination, but the absence of the internal cuneiform bone was discovered only after correcting the deformity.

Treatment was begun February 20, 1891, by partially correcting the tarsal deformity by hand, and placing the uncovered foot in a steel brace bearing on the inner side of the foot and leg, with a steel sole pressing the plantar surface of the metatarsus upward, the counter-pressure coming from a web strap passing over the tarsus aided by a compress; the leg was firmly grasped by a lacing of leather cut to include the external malleolus. The brace was removed twice in twenty-four hours to bathe the parts briefly in a solution of tannin and alcohol, but the foot was not allowed to lose any of its position. As the foot was gradually forced out of its deformity, corresponding changes were carefully made in the apparatus. In a week the brace was adjusted to remove the contraction of the gastrocnemius muscle, much of it being done by manual force at two or three sittings; and at the end of four weeks the foot was in correct position. There was no pain, discomfort or chafing, and after the first week the child walked nicely. The resistance in this case was as firm and unyielding as in another case of congenital talipes equino-varus, aged one year, under treatment at the same time, in which there had not been any arrest of development and the tibial muscles were present and strongly contracted. The foot in each case furnished a similar resistance to correction, and there was the same successful result in each. This demonstrated what has always seemed to me apparent, that the contraction of the tibial muscles is not the obstacle to be overcome and that their division is unnecessary.

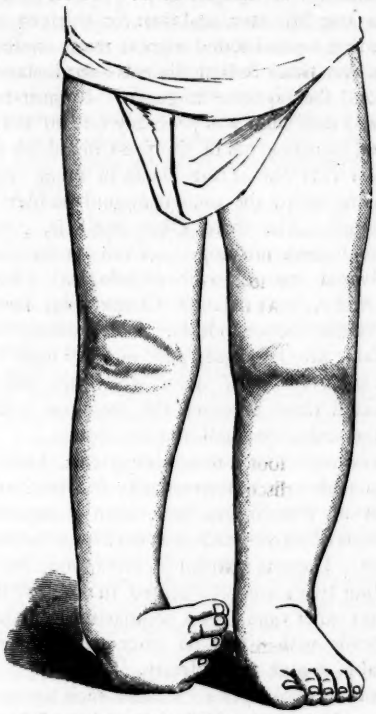
The child is active and intelligent, and in other respects well developed and healthy; he has two older brothers well formed and healthy, except a recent indirect hernia in the second boy. His mother is healthy and well formed, though small in height; her pregnancy was natural, except that she did more sewing than usual during the latter part of gestation; the birth was normal. The father, I am told, presents a deformity at the upper part of the spinal column, dwarfing him, but he is otherwise active and in good health, a dentist by occupation. The mother's uncle had hare-lip, and one of his children had extensive arrest of development of both upper and lower extremities, though in other respects healthy and still living.

The photographs show the foot before and after the correction of the deformity. The patient can extend and by the extensor communis digitorum flex his remnant of a foot, and has now use of foot and limb without any defect of gait. The right

[1] Read at the meeting of the American Orthopedic Association, held in Washington, September 22–25, 1891.

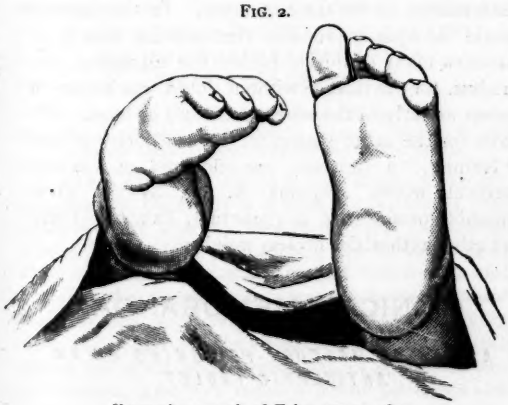
leg below the knee is three-quarters of an inch less in circumference than its mate, owing to the absence of five of the thirteen muscles of the leg. The absence of the great toe is responsible

Fig. 1.



From photograph of February 14, 1891.

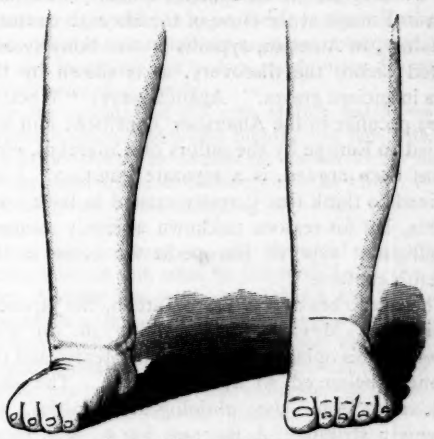
Fig. 2.



From photograph of February 14, 1891.

for the absence of three, the peroneus longus, the extensor, and the flexor proprius pollicis; and the absence of the first shaft of the metatarsus and the internal cuneiform are responsible for the absence of the two tibial muscles. Measurements about the malleoli show six inches for both sides. The scaphoid bone is not fully formed, and since the removal of the deformity has not developed apace with the rest of the foot. The limbs are the same

Fig. 3.



From photograph taken September 12, 1891.

in length, but it remains to be seen if the right limb will grow at the same rate as its more favored mate. It now has a chance, though it has against it eighteen months of disability and injury from the deformity of the foot, the efforts to use the limb on so unsteady a base resulting in hyperextension and strain of the knee-joint, and an injury to the nutrition of the entire limb, from the glutei muscles down.

PRE-COLUMBIAN SYPHILIS.

By ALBERT S. ASHMEAD, M.D.,
of New York.

In view of the interest awakened in pre-Columbian matters by the approaching Fair in Chicago, the question of the history of syphilis in America is just now receiving a great deal of attention. Dr. James Nevins Hyde, in the *American Journal of the Medical Sciences*, discusses the question whether the North American Indians of pre-Columbian times left any evidences in their bones of syphilitic disease. Many—Dr. Shrady among them—think that we have been too ready to accept the compliment paid by the ancient continent to the new in crediting it with the origin of the disease. Dr. Hyde reports the results of some microscopical studies by Dr. Prudden, on two tibiæ from Colorado, which showed the presence of chronic formative ostitis and periostitis, which, as Dr. Shrady observes, might or might not be of syphilitic origin. They conclude that as yet the story has not been told by the bones.

Professor Brinton, the American paleontologist, thinks otherwise. In a letter that I am authorized to make use of, he says: "The origin of syphilis is still an open question. It seems to me probable that it existed time out of mind, in both the New and Old worlds, but assumed a peculiarly malignant form in Europe at the close of the fifteenth century. Certainly, in America, syphilis of the bony system existed before the discovery, as is shown by the relics in ancient graves." Again he says: "Whether it was peculiar to the American continent and was carried to Europe by the sailors of Columbus, etc., as has been argued, is a separate question. I am inclined to think that it really existed in both continents, but for reasons unknown abruptly assumed a malignant type in Europe at the close of the fifteenth century."

The researches of Mr. Gozo Tateno, the Japanese Minister to Mexico, have nothing to do with bones. In his opinion the Aztecs of Mexico and the Japanese belonged to the same race. The physical, and even the philologcal affinities, are extremely striking. I do not know how much importance ought to be attached to the fact that such simple words as "adobe" (sun-dried brick), "coa" (snake), and "huarache" (shoe), are both Japanese and Mexican. But the fact is certainly curious. It is to be hoped that Mr. Tateno will some day publish all the results of this very interesting investigation.[1]

Quatrefages also believes in the consanguinity of the pre-Columbian Americans and the Asiatics. The latter have, of course, been carried to our shores by the Japanese Black Stream. The Behring Straits might even have given passage to a Chinese invasion. It is an undoubted fact, which must corroborate this opinion, that America was known to the Chinese long before Columbus. They called it Fousang. We find in their books some very striking presentments of that very characteristic animal, the llama. The same books speak of Buddhistic efforts at proselytizing in Fousang in the fifth century. Buddhist symbols, representative of Asia, are found in pre-Columbian American art. The Japanese called the same country Fouso, and the same missions are mentioned in their literature.

Quatrefages might have strengthened his theory by showing some almost evident Japanese vestiges in old Peru—for instance, the belief that the rulers of the land, the Incas, were descended from the sun, while we know that the Japanese consider their country as the sun's cradle (Nippon); and the custom of burying the dead in a sitting posture. We owe to trustworthy travellers the interesting information that a Japanese dialect was spoken in certain early Californian colonies. Mr. Guillemin Taraire affirms it of a tribe of Santa Barbara; moreover, he says that the language of several others includes some Japanese and Chinese words. These are not the only philological facts of that kind of which we know. I may mention here that the Hon. John A. Bingham, who was our Minister in Japan for thirteen years, told me that he had found a great many similarities between American-Indian dialects—for instance, of Ohio—and the Japanese language. It must be remembered that Ohio was probably one of the most inhabited cantonments of the pre-Columbian population, for it is one of the places in which most of the remains left by the ancient mound-builders have been found. The word Ohio itself is, perhaps, Japanese "good-morning." Even as far east as Pennsylvania we discover philological affinities. Glen Onoko, near Mauch Chunk, was formerly called by the Indians Otaki. Both words, Onoko and Otaki, are Japanese, and mean "male" and "great waterfall." In Japan, when two waterfalls are situated close together, the great one is always called the male, the small one the female.

Here is another fact, not philological: The different kinds of Indian arrow-heads in the National Museum at Washington have been compared to those forms of arrow-heads that were used by the old Japanese. There is a striking correspondence. All the Indian types are represented in ancient Japan. Yet in no other case does a comparison of Japanese arrow-heads with those of other tribes show any remarkable degree of similarity.

Even if we had only such facts, each not so very strong, perhaps, but very numerous, we might think it highly probable that the American races were descendants of the East Asiatics. In that case it would be equally probable that syphilis existed in America many centuries before the advent of Columbus, for this disease without doubt was known in Japan as early as the seventh century at least. We have for the latter statement the authority of the "Ishinpo," a Japanese encyclopedia of Chinese medical works, 589–807 A. D., by the great Japanese professor of acupuncture, Tamba. There are other authorities no less weighty.

[1] Mr. Tateno is a native of Osaka, and speaks the dialect of Western Japan.

CLINICAL MEMORANDA.

A CASE OF MERCURY-POISONING BY AN ANTISEPTIC TABLET.

BY WILLIAM CLINTON SHEEHY, M.D.,
OF NEW BEDFORD, MASS.

M. V., a sailor, thirty-three years old, while at sea suffered from constipation, and was advised by a shipmate to "take a pill." He was unable to read English, and without advice he took from a bottle a white tablet, which afterward proved to be an antiseptic tablet con-

taining hydrarg. chlor. corros. 7.7. gr., amm. chlor. 7.3 gr.

On the evening of August 29th, three days afterward, I was called. His companion stated that he broke the pill with his teeth and washed it down with a small glass of water. About half an hour afterward, he was seized with vomiting. A sense of nausea with occasional vomiting, the vomitus sometimes containing blood, persisted for twenty-four hours. It was the appearance of blood that alarmed the captain and caused him to bring the boat to port. The bowels, which had moved but *once*, became the seat of much severe griping pain. The tongue, teeth and gums showed all the characteristic symptoms of violent mercurial poisoning, and the breath was very fetid.

The man had experienced a great deal of pain and burning in the esophagus, and had, therefore, taken no solid food. He had a violent headache, a temperature of 99⅘°, but a good pulse. I ordered potass. iod. gr. v, every four hours, and potass. chlor. gr. v, every four hours, given separately, and had the mouth washed every hour with a solution of potass. chlor. (gr. x to ℥j). On August 31st, he complained of some soreness and swelling about the submaxillary glands; but this had disappeared the next day. Under the potassium iodide, which I had increased to ten grains every four hours, he felt worse, but a full dose of magnesium sulphate caused a disappearance of the symptoms. Flaxseed tea was very gratifying to the patient, and under the continued use of potassium iodide, free purgation, and a milk diet, he did well.

I consider this case interesting because I believe that a good part of this strong bichloride solution must have been absorbed. The broken tablet was certainly in the stomach long enough to become dissolved. In this connection it is to be noted that there was neither purging nor eruption, results that usually follow the ingestion of large doses of mercury.

REMOVAL OF THE VERMIFORM APPENDIX FROM A CHILD TWENTY-TWO MONTHS OLD, FOR SUPPURATIVE APPENDICITIS; RECOVERY.

BY J. E. SUMMERS, JR., M.D.,
PROFESSOR OF SURGERY, OMAHA MEDICAL COLLEGE; SURGEON TO THE CLARKSON MEMORIAL AND IMMANUEL HOSPITALS, OMAHA.

I HAVE carefully searched the literature at my command for the report of a case of appendicitis, with removal of the appendix, in a young child, and finding none I feel justified in recording the following case, more especially since the tables of Matterstock and Fitz show the disease to be very rare before the third year. Indeed, according to Fenger (*Cyclopedia of the Diseases of Children*), the youngest case of appendicitis was in an infant seven weeks old. On post-mortem examination, there was found a diffuse peritonitis and "the appendix was dilated and filled with adherent, firm, solid, concrete-like fecal masses." No perforation was discovered. Silbermann saw a case of peritonitis the result of perityphlitis in a child in the late period of lactation. Matterstock mentions a case of perityphlitis in a seven months' old boy, and he and Fitz each report cases in children of twenty months.

Fitz found that out of 247 cases of the disease among children, 80 per cent. were in males and 20 per cent. in females. Matterstock, in 72 cases of children, found the disease in 51 males and 21 females; 70⅘ per cent. and 29⅕ per cent. respectively.

Thus we see that the disease commonly designated perityphlitis, usually having its starting-point in the vermiform appendix, an appendicitis, is almost unknown before the third year, and although not uncommon after that age in children, it occurs much more frequently among males than females.

On the morning of the 27th of July last I was requested to see a twenty-two months' old boy, with the view of performing an abdominal section for the relief of a supposed intestinal obstruction. The history of the case, as given by the attending physician, was as follows:

Four days previously he saw the child soon after it had been seized with what he judged to be an attack of colic. Visiting the child again after a few hours, the existence of a serious lesion was recognized; the pulse was very rapid and the temperature 104° F. There was marked abdominal distress, frequent vomiting, and the bowels were constipated. The child was just recovering from an attack of summer diarrhea. On the second day a consultant saw the case and diagnosticated some obstructive trouble about the head of the colon. Although the temperature had gone down, ranging from 100° F. to 101° F., the pulse was still proportionately too fast. The abdominal symptoms continued more or less pronounced, requiring opium. The bowels had been moved several times by enemas, the dejections containing much mucus. From the second to the fourth day, it had been impossible to obtain a movement of the bowels by enema, and also a cathartic, given by the father without the physician's direction, had failed to act. A small tumor situated in the right abdominal region had been recognized.

On the morning of the fourth day I saw the case for the first time. The pulse was 140, the temperature 101° F., the abdomen somewhat distended and painful, more especially over the region of a small tumor situated with its greater part above McBurney's line. There was no special point of tenderness. The tumor was evidently not adherent to the parietal peritoneum. The child had the general appearance of being very ill. I diagnosticated a suppurative appendicitis, and advised immediate abdominal section. The possibility of an intussusception was considered.

Everything being in readiness and the patient chloroformed, I made a digital exploration by the rectum, and finding nothing to aid the diagnosis, stepped into the bath-room to wash my hands, when upon returning I found that my rectal exploration, aided by the anesthetic, had accomplished what repeated injections failed to produce, a copious, natural movement of the bowels. The surprise of the father and others present, who had had obstruction of the bowels well impressed upon their minds, was so great that I had some difficulty in getting consent to proceed with the operation.

It was done, however, in the usual manner. The incision was made in the right linea semilunaris. The tumor, agglutinated intestines, and omentum were isolated from the general peritoneal cavity by the care-

ful packing of iodoform gauze between the parietal peritoneum and the intestines about the tumor. The omentum was then separated from the surface of the tumor and the intestines gently teased apart until the escape of the characteristic, stinking pus indicated the opening of an abscess. After several drams of pus had escaped, the separation of the intestines was continued until the appendix was recognized, when it was freed from its adhesions, brought up into the incision and tied off from its mesentery and close to the cecum by a double silk ligature, and then cut away. It was much enlarged, in part gangrenous, and contained three perforations. No foreign body could be discovered. The protective packing of gauze was removed and renewed. In addition to some of this same material, a drainage-tube was introduced in the region of the abscess. The usual dressings were applied, but no sutures. In twenty-four hours most of the gauze was removed, and the wound lightly packed. On the fourth day the patient was chloroformed, all gauze removed, and the wound closed by sutures, except its lower angle. The convalescence dated from the day of operation and was uneventful.

I have since operated successfully upon a boy eight years of age for a similar lesion. The appendix could not be recognized; otherwise the operation and after-treatment were practically identical with those in the case narrated.

STRANGULATION OF VAGINA THROUGH A RING-PESSARY.

BY FRANK W. THOMAS, M.D.,
OF PHILADELPHIA.

THE following case is reported to call attention to an unlooked-for danger in the use of certain forms of ring-pessaries.

Mrs. L., sixty-eight years old, was badly torn at her last confinement, and for the past sixteen years has suffered from complete procidentia uteri, to which condition, owing to extreme modesty, she had never called the attention of a physician. A chronic endometritis and ulcerated cervix finally led her to complain, and she was persuaded to seek medical aid. Examination revealed a perineum torn almost to the sphincter, the uterus and inverted vagina protruding from the vulva, the os dilated and ulcerated from friction, and a thick muco-purulent discharge flowing over the parts and excoriating the adjacent tissues. The patient refused operative aid, and a support, having an external attachment, was suggested. For many reasons the "Cutter" support (a ring one and a half inches in diameter, with a lateral stem) was selected. This gave great comfort for two or three days, when it became displaced and was replaced by a neighboring (untrained) nurse. An hour later the patient was suffering agony and I was summoned. The uterus and inverted vagina were again protruding and presented a swollen and purple appearance, with distended veins. The stem of the support was found between the arch of the pubes and the anterior inverted vaginal wall. With some difficulty the finger was guided along the stem and the ring was found to be surrounding and constricting the vaginal tissues at the fundus of the uterus, which had fallen through the lumen of the ring. Careful and diligent manipulation for half an hour failed to free the mass. Filing through the ring was tried in vain, and as a last resort, a pair of ordinary garden shears was brought into requisition, and the ring cut through at the stem and at the opposite side. The tissues were freed, the protruding mass replaced, antiseptic vaginal washes used, and the os supported on a McIntosh cup. Since this time (September 25, 1891) the patient has done well.

Senile atrophy of the uterus is the probable explanation of this rare accident, which might have proved so serious, but the occurrence should warn us of the necessity of taking into consideration the nature and size of all the pelvic contents before applying a support. If in a similar case I should need a like support, and in order to use cleansing douches I hesitated to apply the "cup," I should modify the "Cutter" by having a narrow (one-quarter inch) hard-rubber band extending across the lumen of the ring, which would prevent hernia and allow irrigation.

"THE PROTECTIVE" IN ANTISEPTIC DRESSINGS.

BY D. BENJAMIN, M.D.,
SURGEON TO COOPER HOSPITAL, CAMDEN, N. J.

WHAT is known as "the protective" in antiseptic dressings is a piece of silk very much like the common silk court-plaster, or isinglass-plaster, with this difference, that it is not so stiff, and is, or rather is supposed to be, sterilized.

The manner of using it is to carefully lay over the line of incision a strip sufficiently long to extend at least half an inch beyond each extremity and wide enough to extend at least a quarter of an inch beyond the sutures on each side of the wound. This constitutes the first part of the antiseptic dressing for the wound, and upon this the antiseptic gauze is placed; the antiseptic or absorbent cotton follows, and then the bandage. Some use a powder either on or under "the protective."

To obtain the best results in antiseptic surgery "*the protective*" *should never be used;* it is so impervious, especially if well applied, that instead of keeping the edges of the wound together it prevents the escape of the effusions and thus dams them up, causing pressure and separation of the edges of the wound. If "the protective" be left off the wound altogether, the antiseptic gauze absorbs the exuded fluids, keeping the wound nicely drained and dry.

Moreover, if there happen to be a few germs under "the protective" they readily multiply in the pent-up secretions, thus kindly protected from all the influences of the bichloride gauze, with its many absorbent layers laden with the germicidal mercury. My advice therefore is: *Do not use "the protective."*

Having sterilized the wound as completely as possible, after the sutures are cut and tied, apply the dry antiseptic powder, the gauze, the cotton and the bandage. Any "protective" placed between this dressing and the flesh, if it does anything, destroys or injures the usefulness of other dressings.

The Bacillus of Leprosy.—It is announced that Dr. Kantback, a member of the Indian Leprosy Commission, has finally succeeded in cultivating the bacillus of leprosy in artificial media.

HOSPITAL NOTE.

STITES'S TEST FOR CARCINOMA.

BY JOHN H. BRINTON, M.D.,
PROFESSOR OF THE PRACTICE OF SURGERY AND OF CLINICAL SURGERY IN THE JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.

ON October 17th, at the surgical clinic, I removed for atrophic scirrhus the right breast of a female, aged sixty-one. In the presence of the class the tumor was immediately subjected by Dr. W. M. L. Coplin to the test of Mr. H. J. Stites, of Edinburgh. The method of examination was that furnished me by Professor Chiene, of Edinburgh, which I give in his own words:

1. Excise the mamma.
2. Wash thoroughly in water to remove blood.
3. Place in a 5 per cent. solution of nitric acid (B. P.) for ten minutes.
4. Wash in cold water for five minutes.

By the time these procedures are executed the axilla is cleaned out and the vessels tied. The mamma is now examined; the carcinomatous structure appears a dull white, like the eye of a boiled fish, the healthy tissue translucent. When any such reaction is seen additional tissue should be removed at the corresponding point.

In removing the carcinomatous breast, Professor Chiene directs that its relations to the circumferential tissues should be marked by the knife, so that after the test has been applied to the mass excised the situation of any outlying, unremoved diseased areas can be fixed.

In the case operated upon the foregoing directions were carefully followed by Dr. Coplin, who demonstrated to the class that the infected tissue became of the characteristic "dull white," resembling egg-albumen, while the uninfected tissue appeared translucent and gelatinoid, affording a striking contrast to the carcinomatous structures. The reaction in the axillary glands seemed even more marked than that in the breast; it therefore would, perhaps, be well always to retain one gland for comparison with those treated with the acid.

The test described by the distinguished Scottish surgeon as devised by his assistant, Mr. Stites, appears to be a most perfect one. It is to be hoped that future trial will show that it can be depended upon, and that it can really be accepted as a gauge of the thoroughness and sufficiency of removal of carcinomata, not only of the mamma, but also of other parts.

CURRENT LITERATURE.

CURETTING THE UTERUS IN PUERPERAL FEVER.

HEINRICH FRITSCH maintains that the view that puerperal fever depends upon the invasion of the uterus by cocci leads to two indications: to prevent the entrance of the germs—prophylaxis; and to remove or render harmless such cocci as may have gained entrance.

If it could be known just when the germs had gained entrance into the genital passages, immediate or at least early washing out, cauterization and cleansing would be of service; just as the same procedures bring about recovery in operations for appendicitis and pyosalpinx, when rupture of the tube has taken place. When it is too late to obtain good results from irrigation, good may be accomplished by curetting the uterus. Such a mode of treatment would seem logically justifiable if puerperal fever be divided into pyemic, septicemic and sapremic. In the latter, septic processes are taking place in the uterus, with the presence of saprophytes and the ptomaïnes formed by them, the entrance of which into the circulation occasions fever. There is no doubt that the complete removal of the septic contents of the uterus in such a case must insure recovery. Fritsch admits that curetting is not especially dangerous, and states that it is not very painful. He thinks that there is little danger of perforation of the uterus, and seems to prefer a large, broad, dull curette. In the first few days after delivery, the uterus is usually firm and hard. Exceptionally, however, it may be soft and easily perforated. There are individual differences in this respect, and there are also local differences in the same uterus. Generally the uterus is more easily perforated later, in the fourth week.

In spite of the ease and harmlessness of curetting, Fritsch advises against it, because, at the beginning, sapremic puerperal fever is not to be differentiated from infection with streptococci. He has seen a large number of fatal cases of infection in which the fever set in between the fifth or eighth day, or later, and in which the mind was clear for days.

Again, in curetting, the true seat of the disease in the parametrium is not attacked. Infection begins in the cervix. When contraction of the uterus has taken place, the poison is beyond the reach of irrigation. The cocci enter through wounds in the cervix. So long as the cocci remain in the cervix they do little harm; interference may cause their dissemination and thus lead to the development of puerperal fever. In mild cases cleansing does good; so may also strong cauterization with iodine. Vigorous contraction of the uterus is helpful.

If fragments of placenta are adherent they should be removed with the curette, although Fritsch cites instances in which they seem to have occasioned no disturbance.—*Deutsche med. Wochenschrift*, No. 16, 1891.

DILATATION OF THE STOMACH FOLLOWING STENOSIS OF THE DUODENUM.

HOCHHAUS (*Berliner klin. Wochenschr.*, No. 17, 1891) concedes that it is easy to diagnosticate pronounced dilatation of the stomach, but maintains that it is often difficult to determine the causative factors. Among the latter are chronic gastric catarrh, atony of the muscular coat, obstruction at the pylorus and constriction of the duodenum. In some cases of narrowing of the duodenum large quantities of bilious matter are vomited.

In a case of narrowing of the jejunum, changes in the chemical reactions of the gastric fluids were noted. Sometimes, after a test-meal, the filtered gastric contents contained free hydrochloric acid and possessed normal digestive power; at other times hydrochloric acid was absent from the admixture of bile and the alkaline intestinal juice. Moreover, in spite of thorough washing-out of the stomach in the evening, profuse

vomiting nevertheless occurred during the night, due, no doubt, to regurgitation from the duodenum into the stomach.

Hochhaus reports three cases of obstruction of the small intestine. In the first, in a woman, sixty-seven years old, the main symptoms were eructations, flatulence, a feeling of tension in the epigastric region, and vomiting. The vomiting occurred at first two or three times a week, several hours after meals, but subsequently it took place in the late hours of the evening. A loud succussion sound could be heard over the stomach, with other evidences of dilatation. At times free hydrochloric acid could be found in the contents of the stomach; at other times the acid was wanting. The patient ultimately died of inanition. At the autopsy a tight stricture of the duodenum, just beyond the pylorus, was found, together with other evidences of ulceration resulting from the presence of biliary calculi.

The second case was in a man, sixty-seven years old, with vomiting of large quantities of a dark-greenish fluid, in which free hydrochloric acid was sometimes present and sometimes absent. The beginning of the jejunum was occluded by a colossal gall-stone. There were large scars in and a fistulous communication between the duodenum and gall-bladder.

In the third case, in a man thirty-four years old, with epigastric pains, eructations, and profuse vomiting of brownish masses, in which free hydrochloric acid was almost constantly present, a small carcinoma of the pylorus was found. The duodenum was additionally constricted at its lower part by cicatricial bands extending from the cystic duct.

Hochhaus believes that the chief diagnostic points of dilatation of the stomach following stenosis of the duodenum are:

1. The presence of a large quantity of bile in the stomach.
2. The variability in the presence of free hydrochloric acid and in the digestive power of the gastric juice.
3. Profuse vomiting in spite of careful washing-out of the stomach.
4. A history of disease of the biliary passages.

MEDICAL PROGRESS.

Antipyrine in the Treatment of Chorea.—LEROUX (*La Semaine Médicale*, August 12, 1891) obtained favorable results in forty-one of sixty cases of chorea treated with antipyrine. In the favorable cases, the disease terminated on an average at the end of forty-five days—the usual duration of chorea being sixty-six days. In nineteen cases, the results were not favorable, either because the disease proved refractory to antipyrine or was prolonged as post-choreic tic, or because the treatment was pursued irregularly, or was suspended on account of an intercurrent affection or of an intolerance of the remedy. Recurrences and relapses were, however, frequent, notwithstanding the continuance of the treatment. Forty-five grains (daily) constituted the minimum dose from which favorable results were obtained. In some instances, it was necessary to administer from sixty to seventy-five, and even ninety grains. The treatment was begun with from fifteen to thirty grains; for children of from eight to ten years, the dose was speedily increased to from sixty to seventy-five grains; for children of from ten to twelve, to from seventy-five to ninety grains. Some cases yielded at once to doses of from forty-five to sixty grains; but if at the end of from eight to ten days there was no change, the dose was increased in accordance with the age of the child. If, finally, at the end of a month doses of from seventy-five to ninety grains brought about no notable amelioration, no more was hoped for from its administration. Notwithstanding the prolonged administration of large doses of antipyrine, not a single grave accident occurred.

Incised Wound of the Femoral Vessels.—KRÖNLEIN (*Corresp.-blatt f. Schweizer Aerzte*, August 15, 1891) reported to the Society of Physicians of Zurich the case of a butcher, twenty-one years old, who had received an incised wound in the middle of the anterior surface of the right thigh, losing considerable blood before an Esmarch bandage was applied. The extremity became greatly swollen and the patient was anemic, almost pulseless, and excited. Without anesthesia, an incision was made at the site of injury and great masses of coagula removed. The femoral artery and vein were found severed; they were ligated with silk. Drainage was provided for; the limb was elevated, and a bandage was applied. In the course of twenty-four hours, fever developed; the wound became discolored and purulent; the limb was greatly swollen; the foot and leg became cyanotic. The sutures were removed. The bandages were changed twice daily, and the wound was irrigated with a solution of corrosive sublimate. Improvement gradually took place. Gangrene of the foot set in, a line of demarcation forming at the tarso-metatarsal line. Three weeks after the accident the condition of the patient was good; the temperature was almost normal, and the wound was quite clean.

Echinococcus in Joints.—FISCHER (*Deutsche Zeitschr. für Chirurgie*, Nos. 1 and 2, 1891) has reported the case of a man, forty-four years old, in which, following an injury of the lower end of the left thigh, great pain, swelling and fluctuation appeared at the knee-joint. An incision above and internal to the patella evacuated a considerable quantity of a thin, nearly clear fluid, with about a dozen echinococcus cysts. Swelling and fluctuation, however, returned. The knee-joint was then exposed and many echinococcus cysts with serous fluid were evacuated. The reddened synovial membrane and the suspected parts of the capsule of the joint were extirpated, the lower end of the femur thoroughly cleansed. Complete recovery ensued, with scarcely any impairment of the usefulness of the joint.

Anticylic Acid: a New Antipyretic.—MÜLLER (*Corresp.-blatt f. Schweizer Aerzte*, August 15, 1891), of Tokio, recommends anticylic acid as an active antipyretic. It is a white, fragrant powder, with a refreshing, acid taste, readily soluble in water, alcohol and glycerin, and is non-toxic. In a solution of 1:10,000 it is destructive of even the most resistant organisms. The solutions are clear and do not injure instruments. Administered internally in doses of gr. $\frac{1}{100}$, anticylic acid proved exceedingly useful in cases of pneumonia, typhoid fever and articular rheumatism.

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THE DISPOSAL OF LEPERS.

WITHIN the past few years a considerable number of cases of leprosy, mostly subjects of foreign governments, have been brought to public notice in various parts of the country. Quite recently four cases have been discovered in Philadelphia alone. Two, by a fortunate combination of circumstances, were safely returned to their homes in South America; one is now in an adjoining county, and one is isolated in the Municipal Hospital. What to do with these unfortunate creatures is a subject for thoughtful consideration. The law prohibiting the admission of lepers into this country may be easily evaded when the disease is concealed, or not sufficiently developed to be readily detected. When in the country, the difficulty of returning the subjects of this malady to their native places is almost insurmountable. It remains, therefore, to devise a plan for the proper detention and care of lepers on our own soil.

It is no longer a disputed point that lepers should be isolated, and this isolation should be adapted to the peculiar needs of the patients suffering from this much-dreaded disease. While in a degree deprived of their liberty, the dictates of humanity repel the idea of isolation so absolute as to amount to imprisonment at solitary confinement. It therefore becomes necessary to provide stations for the special management and humane treatment of the subjects of this malady. Municipalities, or even States, are unequal to the task, for the reason that the expense would be excessive without apparent, corresponding advantages. An undue multiplication of such places, when only occasional necessity for their use exists, would make such a scheme impracticable. And yet, when the demand exists, the want of a local station is severely felt. Nor does it seem right that any municipality should be burdened with the expense, when the sufferers are almost invariably foreigners who have no permanent domicile, but move about from place to place as circumstances determine.

It would seem judicious and eminently proper that the National Government should take this subject in hand, and provide one or more well-selected stations, where all lepers could be sent under such regulations as would avoid any conflict with State prerogatives. Congress is soon to assemble, and if the representative medical societies and the Marine-Hospital Service, which is especially interested in the subject, would formulate the legislation necessary to meet the needs of the country, and follow up the first step by persistent effort and intelligent agitation of the subject, the solution of this question might be accomplished before another year passes.

METHYLENE-BLUE IN THE TREATMENT OF MALARIA.

IN the *Berliner klinische Wochenschrift*, No. 39, 1891, GUTTMANN and EHRLICH, of the Moabit Hospital at Berlin, present an account of some very interesting and apparently valuable observations that they have recently made upon the therapeutics of malarial fever. In view of the fact that patients suffering from severe and prolonged attacks of this disease frequently acquire such a tolerance to the action of quinine that its therapeutic value is very much diminished, and at times even quite lost, these studies of GUTTMANN and EHRLICH will be of particular importance. They have tested the action of medicinal methylene-blue in this affection, and in two cases, one of quotidian, the other of tertian malarial fever, seem to have shown that the drug possesses curative properties. For some time past, chemists have been endeavoring to prepare synthetically some compound of the nature of quinine that may be substituted for it, but with only partial success. The behavior of the plasmodium malariæ when subjected to the action of methylene-

blue outside of the body in blood freshly drawn from malarial patients suggested its employment in this disease.

GUTTMANN and EHRLICH employed the drug internally, in doses of 0.1 gram (1.5 grains) five times daily. In the tertian form of the fever the interval between the doses was three hours, in the quotidian it was one hour. In the latter case its administration was begun about from ten to twelve hours before the appearance of the fever. The quantity administered daily should not exceed 0.5 gram (7.5 grains) and this should be continued for from eight to ten days after the disappearance of the fever.

The only unpleasant reaction that accompanies the use of the drug is a temporary irritation of the bladder, which rapidly passes away with the use of small doses of powdered nutmeg. The quantity of urine passed daily is also slightly increased. As yet, albumin has not been observed to be an accompaniment of this condition, though GUTTMANN and EHRLICH recommend that during the administration of the drug the urine should be carefully tested for albumin.

The urine passed during the treatment is seen to be of a bright-blue color. The intestinal evacuations, on the contrary, when passed, show no evidence of the presence of the drug, because of its presence as the colorless reduction-product, but upon exposure for a time to the oxidizing action of the air they too take on the characteristic blue tint. The prophylactic virtues of this compound have not, as yet, been determined. GUTTMANN and EHRLICH suggest the probable beneficial action of methylene-blue combined with quinine in the treatment of tropical malarial fevers.

The form in which the drug is to be employed is the powdered, chemically pure, medicinal methylene-blue. It is given in capsule. Owing to the scarcity of malarial fever in and about Berlin the number of cases upon which the drug has been tried is small, but the evidence presented by these cases is of such a nature as to point to this compound as a valuable addition to the list of agents that may be used in the treatment of malaria.

THE CHEMISTRY OF THE SMALL INTESTINE IN MAN.

IN their studies upon the chemical processes in the small intestine of man, MACFADYEN, NENCKI, and SIEBER[1] arrived at results that point to the error of a number of statements which are commonly made in regard to this subject.

They found that the acid chyme in passing from the stomach into the small intestine did not become alkaline, but continued of an acid reaction until it had passed through the ileo-cecal valve. As a result of this acid reaction, a decomposition of proteids by bacteria does not take place, or, at most, takes place inconstantly and to a hardly perceptible degree; and not only that, but the action of the pancreatic juice on proteids is weakened by the acid reaction of the intestinal contents. The products so easily obtained outside the body by the action of trypsin on proteids (leucin and tyrosin) were *not* to be found in the small intestine. Further, the decomposition of the food-mass prior to its passage through the ileo-cecal valve is confined to the carbohydrates. The products formed by the bacteria from the sugar in the small intestine are the two lactic acids, acetic acid, succinic acid, carbonic acid, hydrogen, and ethyl-alcohol. Their ash-analyses proved that an important function of the mucosa of the small intestine is to constantly supply alkaline carbonates for the purpose of neutralizing the acids produced by the fermentation of the sugar.

They do not consider the fermentations produced by the bacteria in the small intestine as necessary for the maintenance of our life. It is much more to be regarded as a loss that a portion of the dextrose formed by the pancreatic enzyme out of starch is not absorbed, but serves as nutriment for the parisitic bacteria of the digestive tract.

It is in the large intestine that the contents of the alimentary tract take on an alkaline reaction, and it is also here that the first evidences of putrefactive decomposition are seen. The products of decomposition of the proteids of the food as found in the large intestine are chiefly indol, skatol, phenol, lactic acid, volatile fatty acids, aromatic acids, organic bases, and ammonia; the gases are carbonic acid, hydrogen, methan, sulphuretted hydrogen, and methylmercaptan. It is easy to see that none of these products are food-stuffs.

The general surveys made of the bacterial forms present in the small intestine under normal and healthy conditions show that these vary even with slight changes in diet, or with the way in which it is

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[1] Journal of Anatomy and Physiology, vol. xxv., 1891.

prepared. There seem to be no bacterial forms that are especially bound to and constantly to be found in the small intestine, as is seen to be the case with the oral cavity or with the colon. One characteristic mark, however, for the bacteria of the small intestine is this: that by preference, so to speak, they decompose carbohydrates and not proteids.

The proteids are decomposed in man in the large intestine, with the formation of the products that characterize putrefaction.

The case upon which these studies were made was particularly favorable for the purpose. It was a woman in whom an anus præternaturalis had been established at the extremity of the small intestine, just before it joins the cecum, so that the food-mass could be collected and studied after it had passed the entire length of the small intestine, and before it passed through the ileo-cecal valve.

During six months the patient lived with her large intestine completely cut off from the digestive process. During that time she gained in weight, and, from inspection of her urine, there was no interruption in the exchange of nitrogen as evidenced by the daily amount of urea excreted.

At the end of this time the small and large intestines were united, and the patient made a rapid recovery. The first solid stool was passed per rectum on the ninth day subsequently to operation.

REPORT OF THE NEW JERSEY STATE BOARD OF MEDICAL EXAMINERS.

We regret that we cannot publish in full the First Annual Report of the New Jersey State Board of Medical Examiners. The wretched conditions of medical or quackery practice under the old order of things are brought into sharp contrast with the ordering of such affairs as is promised and has been partly accomplished under the wiser administration of the new law that went into effect July 4, 1890.

The Board met and organized at Trenton, September 2, 1890. Since then eleven meetings of the Board have been held and 101 candidates examined. Of these, 82 were licensed to practise medicine in the State, 16 were rejected, and 3 licenses were issued in the preliminary branches. The examination papers are voted upon by the different examiners without personal knowledge of the writers. The questions are practical, and designed to test a fair degree of medical knowledge and intellectual ability. Previously to the year 1890 there was an average annual "registration" of about 300 so-called physicians. Comparing this number with the number of licentiates passed by the Board—82—it is readily seen that the new law operates by exclusion rather than by rejection. "Men who do not feel competent to pass our examinations find a convenient opening for themselves in the States where there is no medical law, *e. g.*, Massachusetts and Connecticut. Thus in Minnesota, where a similar law has been in operation since 1883, the ratio of physicians to the population has decreased over one-half during seven years—it being over 12 per cent. in 1883, and only 6 per cent. in 1890." This is a convincing argument, and must make the self-respecting physicians of Massachusetts and Connecticut blush for the condition of their local concerns. The law is perhaps the best that could at the time be passed, but can only be considered as a kind of stop-gap—the first attempt to fill the break in the levee. By its provisions the Board is a "mixed" one, five of its nine members being physicians, whilst three are "homeopaths," and one is an "eclectic."

INJUSTICE TO AMERICAN MEDICAL AUTHORS.

The question of the publication of contributions read at medical societies in other periodicals than the late-appearing Transactions or society's journal has an important aspect that is presented in a letter from our Paris correspondent contained in the current number of The Medical News. American medicine is plainly put at a disadvantage by the rules against such publication now enforced by many of our societies. It has become a matter of repeated remark that articles published only in the society Transactions, from obvious reasons are not abstracted or re-reported by European journals. The wrong even proceeds to their frequent exclusion from the *Index Medicus* and from the various annuals, epitomes, or other serial *résumés* of medical literature published over the world. It is said that the actual circulation of some of the Transactions or authorized society reports does not exceed fifty copies. Writers who have anything of importance to communicate to their professional brethren will scarcely submit longer to such an absurd restriction. The loss is a common one both to the author and to medicine generally, but to American medicine in particular.

SOCIETY PROCEEDINGS.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

First Annual Meeting, held at Philadelphia, September 24, 25, and 26, 1891.

(Continued from p. 497.)

SECOND DAY—SEPTEMBER 25TH.

DR. J. H. KELLOGG, of Battle Creek, Mich., read a paper entitled "Summary of My Personal Experience with Electrolysis in the Treatment of Fibroid Tumors," covering the results obtained in sixty cases. Of these, four were not treated sufficiently long to give the treatment a fair trial. Nine cases, one of which was a soft myoma, were made worse, or not much benefited. In five cases the tumor was not diminished in size, but other symptoms were considerably relieved. In eleven cases the tumor was not diminished, but the other symptoms, pain, weight, etc., entirely disappeared. In seventeen cases, the tumor was considerably diminished and the patient restored to good health. In fourteen cases the tumor disappeared entirely or became barely perceptible.

Of thirty-two interstitial tumors, the tumor was, in nine cases, diminished in size and other symptoms were removed. In six cases the tumor was not diminished in size, but the other symptoms disappeared. In nine cases the tumor was not diminished in size, but the other symptoms were in part relieved. In the fourteen cases that comprised all of the cases completely cured, both the tumor and the symptoms disappeared.

Of nine cases of sub-peritoneal growths, four were not benefited or were made worse; in one case there was slight benefit; in two, other symptoms were relieved but the tumor was not reduced in size; and in two the tumor was reduced in size and other symptoms were wholly relieved.

Of fifteen cases in which the tumor was both sub-peritoneal and interstitial, in five the treatment completely failed; one was slightly benefited; four were relieved of symptoms without reduction of the tumor; and in five there was reduction of the tumor and relief of other symptoms.

It thus appears that the cases of fibroids most benefited by electrolysis are those in which the growths are interstitial. Interstitial and sub-peritoneal growths are not benefited in the same degree. Sub-peritoneal tumors are the least susceptible of benefit. Sub-mucous fibroids are the most amenable to treatment, but of this class no well-defined cases had come under observation.

Of the fourteen cases in which no material results were accomplished, 78.7 per cent. were under forty, and 42.7 per cent. did not exceed thirty-five. In the cases of fibroid tumor in which other symptoms were cured, but in which the tumor was not diminished in size, the average age was 43.7 years. In cases in which the tumor was considerably diminished and the patient restored to good health, the average age was 40 years. In the fourteen cases in which the tumor entirely disappeared or became barely perceptible, the average age was 37.9 years.

There are, unquestionably, cases of fibroids that may be satisfactorily treated by electrolysis, and there are other cases that are fit subjects for the surgeon. There is still another class in which the patient herself or special circumstances must decide the mode of treatment that shall be adopted.

Electrolysis may be properly employed, and with expectation of success—1. In cases of small or moderate-sized tumors. 2. In interstitial growths of any size. 3. For the relief of hemorrhage and pain in any class of tumors. 4. As a means of expediting the climacteric change in any class of cases in which the application is well borne.

Cases should be subjected to surgical treatment, either removal of the appendages or hysterectomy—1. In cases of very large tumors, which have resisted the application of electrolysis for a reasonable length of time, and in which there is an uncontrolled hemorrhagic tendency. The hard multinodular fibroids are most likely to be benefited by this operation. 2. In cases of suppurating tubes, or in a seriously-diseased condition of the appendages. 3. Hysterectomy is the only remedy in cases of soft edematous myomata.

Of hysterectomy, ovariotomy, and electrolysis, it must be conceded that electrolysis is the least formidable operation. To obtain good results from electrolysis it is necessary to observe the most scrupulous care, not only in the application of the electrical current, but in the after-management of the patient. When, after applications of from 100 to 300 milliampères of current, gynecologists send patients to their homes in the street cars, in carriages, or in railway trains, distances of from two to twenty miles, it must not be a matter of surprise that now and then bad results are experienced. Patients should be sent to bed for twenty-four hours after each application of the current. Another cause of failure in the employment of electrolysis is neglect to use such other means as are known to be serviceable in the management of cases. It is not the duty of the surgeon to neglect to employ for his patient whatever remedy he believes may be beneficial, simply for the purpose of enabling him to differentiate more exactly the results of his therapeutic efforts.

The hygiene of the patient, and all measures calculated to improve the general health, must receive careful attention.

Dr. Kellogg expressed the belief that in cases of metrorrhagia the chief curative action of the current resides in its cauterizing effect upon the endometrium. Electrolysis accomplishes the same results as does curetting, not so rapidly, but more efficiently; its action penetrates the uterine tissues according to the strength and the duration of the application.

Dr. Kellogg stated it as his conviction that the current acts chiefly through its polar rather than by any subtle interpolar action. Interpolar action of the current must, necessarily, be transitory, whereas the destruction of tissue occasioned by the cauterizing action of the positive pole is tangible, and efficient and permanent in character, and as a result of which bloodvessels are plugged by coagulation, and afterward permanently closed by cicatrization, so that the nutrition of the morbid growth is materially lessened. Observation has demonstrated that a tumor, to be benefited by electrolysis, must be of such a nature and so located, as to be

susceptible to impressions upon its vascular supply, such as those described.

DR. H. E. HAYD, of Buffalo, N. Y., reported "Two Cases of Fibroids in which Electricity Ceased to Control Hemorrhage after a Time, Although Eminently Satisfactory At First," admirably illustrating how dangerous and fatal hemorrhages may be controlled by positive galvanism after many other forms of treatment have consecutively failed. They demonstrated also the possibility of electrical satiety, a condition in which, after long and continuous electrical applications, symptoms at first relieved are provoked and aggravated. The cases also showed how after electrical applications simple measures acted favorably, when previously they had no salutary influence. Moreover they impress upon the surgeon's mind the necessity of expectant treatment in women at the menopause, and a frequent recourse to various medicaments, which may at one time fail, but after a certain period, and after the influence of other treatment, be of signal service.

DR. GOELET stated that he could not agree with Dr. Hayd that there is such a condition as a patient becoming satiated with electricity. The cavity of the uterus is much larger than the cervical canal, and to produce a caustic action upon the endometrium the electrode must be large enough to be in contact with the entire uterine surface.

Another point is that in almost all cases of fibroid there exists endometritis, and this means catarrhal discharge, which probably prevents the action upon the diseased surface. In such a case the discharge must be gotten rid of by dilatation and drainage; in some cases it is necessary to apply the negative current to dissolve the secretions so as to permit of better contact with the diseased surface. In sensitive patients the current must not be too strong: 75 milliampères will not ordinarily cause hemorrhage. It is sometimes well to administer a mild anesthetic, preferably chloroform, for a few minutes. It is not wise too continue the application of electricity too long; if the application is made in three stages of three minutes each, or nine minutes altogether, using a mild anesthetic, a strength of from 250 to 300 milliampères can be employed; the agent must be pushed to accomplish success and not failure.

In some cases the cavity of the uterus should first be curretted so that the electrode can come in contact with the diseased surface and produce an eschar.

Dr. Goelet stated that a failure to control uterine hemorrhage by means of electricity is often dependent upon the application being too brief to produce cauterization.

DR. MORTON propounded the query, How much of the electrical action is due to the chemical products of the positive pole, and how much is due to the galvanic action pure and simple? He related a case in which persistent menorrhagia was controlled by the intra-vaginal application of a clay-ball electrode, a large growth in the groin simultaneously disappearing.

DR. CLEAVES stated that he had controlled the metrorrhagia in a case of irregular menstruation by two intra-vaginal applications of static electricity, which were given because it was not convenient to apply the galvanic current, menstruation becoming regular.

DR. MORTON added that it has been experimentally demonstrated that the negative electrode introduced into the uterus of a rabbit would cause a profuse flow of fluid from the uterus, and by reversing the poles the flow ceased. The effect is explained as one of kataphoresis—that is, the fluids pass from the anode to the kathode in a manner analogous to the occurrence of osmosis. To obtain the full effects of kataphoresis in the treatment of disease—in other words, to accumulate liquids at the negative pole—it is necessary to continue the treatment for some time.

DR. MASSEY expressed a warning word against the too frequent introduction of electrodes into the uterus. The uterus should not be invaded by an electrode, or any other body that causes an equal degree of local disturbance, oftener than every five days at most; seven days constitute a better interval. He commended thoroughness of application. In causing the arrest of hemorrhage two actions are obtained from electricity: one, the constringent effect upon the uterine tissue—this is the only action obtained, unless destructive currents are used; the other consists in the destruction or cauterization of the mucous membrane, which is followed by cicatrization.

Dr. Massey emphasized the necessity for rest and rational treatment during the time of intra-uterine applications of electricity. The galvanic effect in controlling uterine hemorrhage simply induces contraction of the organ; with a sufficient current myomata can be affected similarly at the positive pole, with the employment of a platinum curette, in lessening hemorrhage.

DR. READING stated that in his experience the hemorrhages in question are due to a too frequent application of the current. In a case of large fibroid, extending above the umbilicus, in which menstruation was excessive both in quantity and duration, and treatment was applied two or three times a week for three months, menstruation recurred every two weeks, being quite profuse, and lasting from seven to ten days. After diminishing the number of applications to one a week, improvement immediately took place. In a second case of hemorrhage treated with a positive intra-uterine electrode two or three times a week, even after the stoppage of the hemorrhage, there was a recurrence of the hemorrhage; and upon diminishing the frequency of the applications, and substituting the negative pole for the positive, there was no further trouble.

DR. G. BETTON MASSEY, of Philadelphia, read a paper entitled "Electro-puncture: Its Most Useful Modifications, and Its Value in the Treatment of Fibroid Tumors," which is to appear in a subsequent number of THE MEDICAL NEWS.

DR. GOELET stated that he formerly performed puncture, but recently he had abandoned it, not because of any failures, but because he feared that he might have failures. He coincided with the view that longer intervals should be permitted to elapse between applications, not only in puncture, but in intra-vaginal applications. It is desirable that the effect of one treatment should subside before another is applied.

As to the technique of puncture, there is a question as to the advantages of the buried puncture, or as to the puncture by needle not insulated.

For the reason that the vaginal surface is not so very sensitive to puncture, the needle can be introduced and

scarcely be felt by the patient, unless the needle is large and much pressure is needed to cause it to enter. It is an important point that the needles should be as fine as possible. All that is necessary is to introduce the current into the structure, which can be done with a small as well as with a large needle.

Puncture may also be employed for the relief of pain, a current of from twenty to thirty milliampères being used.

Absorption can be accomplished with the positive pole just as well, if not better, than with the negative. In cases of soft myomata the positive pole is to be preferred to the negative pole.

The bad results of abdominal puncture have been due to the fact that the currents used have been too strong. The reduction of tumors by abdominal puncture can be accomplished by the employment of from ten to twenty milliampères and several needles. The needles need be no larger than exploring needles.

DR. HAYD spoke favorably of vaginal puncture for cellulitic deposits, adding that it materially assists in resolution and relieves pain, and is practically without danger. There is greater danger, however, from puncture through the abdomen; unrecognizable complications may exist: an encapsulated ovarian cyst, or a tumor, fibroid in character, which has undergone cystic degeneration, or is the seat of abscesses, may be mistaken for a large fibroid. A few enthusiastic and good men may obtain good results from good work, but much harm may be done by giving general sanction to the procedure. The intestines sometimes intervene between the tumor and the abdominal wall; there may be adhesions, or a bloodvessel may be punctured, with a resultant hematocele. In the vagina the danger is not so great as the puncture through the abdomen.

DR. VON RAITZ, of New York, read a paper on "Perimetritis and Parametritis," giving a short sketch of the pathology of both affections, and the physiological and chemical actions of the constant current. He laid stress upon such knowledge, as it does away with the empiric use of electricity and gives the profession a means of working scientifically and successfully.

In one case of parametritis and in one of perimetritis, the positive pole was placed alternately over the hypogastrium and sacrum, and the negative in the vagina; but in the case of perimetritis he introduced the electrode into the womb, and finally, as he thought nature intended evacuation of the abscess, which was peculiarly situated in the utero-vesical space, he made applications through the bladder. In the vagina he used 30 milliampères, gradually and slowly increased from about 20 milliampères; in the womb he in the same way used 30 milliampères, and in the bladder 20 milliampères.

With the negative pole in the vagina the sittings were of about one-half hour; with the electrode in the uterus and bladder of about fifteen minutes' duration. To prevent cystitis he used a solution of methylene-blue.

DR. BIGELOW expressed his disbelief in parametritis. He admitted that that which comes from septicemia does exist, but pure cellulitis or parametritis is very rare, especially where there is no salpingitis with it. When there is fluctuation in either fornix or a history of hectic, and when a circumscribed, round swelling can be distinguished, there is usually salpingo-ovaritis. Perimetritis is quite frequent and the inter-menstrual pains simulate peritonitis.

DR. GOELET stated that in parametritis and perimetritis he did not make applications to the interior of the uterus, but to the vagina; it was just these conditions that led him to propose the carbon electrode to be covered with clay, so that it could be employed without cauterizing the vaginal surface. As an additional protection he suggested that the electrode be dipped in a solution of sodium bicarbonate; but egg-albumin constitutes a much better protection. The local action of the pole takes place on the albumin instead of on the mucous surface.

Dr. Goelet considered it a good point to shift the poles, to obviate the setting up of an irritation at the point of application at one sitting. The positive pole relieves. An auxiliary to the treatment is the faradic current after the application of galvanism. It aids not only in making the patient more comfortable, but it also accelerates absorption. In some sensitive conditions the negative pole cannot be used unless the positive pole is afterward employed.

DR. MOSHER stated that he had had some favorable results from the employment of electricity in the treatment of retroversio uteri. He at first used the negative galvanic current with the ball electrode covered with cotton, but not successfully. He could not carry the ball electrode high enough to reach the part of the uterus desired, so that he devised a copper wire, in turn covered with wire, so curved that it passed high up into the uterus. By progressive modifications he was able to carry the current to the posterior wall of the uterus high up, without disturbing the ovary; by lowering the external end of the stem, he could, in many instances, replace the uterus so as to obtain not only the vital action of the current upon the muscular fibers, but a direct action on the muscular fibers of the round ligament, thereby helping to strengthen the anterior supports of the uterus. In many cases he has observed the thickened wall of the posterior part of the uterus thin out in six weeks, after four or five applications, as if the walls had been partially removed, and he has thus been able to find fibroid tumors that could not be felt at all before the treatment.

DR. NUNN stated that burning of the skin when strong currents are employed can be obviated by the interposition of a piece of wet chamois-skin between the skin and the electrode.

He maintained that electro-massage is not sufficiently attended to. A coarse current, thrown into a particular part, will set in motion the deeper muscles, occasioning an electric massage, where ordinary massage was not available.

DR. MASSEY stated that he did not think it proper to attribute all the results to the acids and alkalies present. These bodies only appear in the immediate neighborhood of the poles.

DR. WILLIAM JAMES MORTON, of New York, read a paper entitled "Metabolic Polarity and Electro-therapeutics," in which he developed certain propositions:

1. The mutual relations of the two elements and the electrolyte of an artificial voltaic cell are also the mutual relations of protoplasmic parts of living organisms during the process of living.

(*a*) The oxidation of the positive plate of the cell (the zinc) corresponds to the destructive or katabolic chemical exchanges producing waste products—urea, uric acid, kreatinin, etc.

(*b*) The hydrogen or other bases acting at the negative plate correspond to the constructive or anabolic chemical exchanges.

(*c*) The decomposition of the electrolyte corresponds to the decomposition of the animal electrolyte (blood, lymph, and other fluids).

(*d*) Oxygen and hydrogen are referred to not as the only reaction-agents, but also as types of their congeners engaged in the complex chemical exchanges of living organisms.

2. During functional rest of a given living animal area, the anabolic, constructive action or storage of energy goes on, and during functional activity the katabolic, destructive action or releasing of energy goes on, as evidenced by their opposite polarities, positivity (in the internal circuit) being the sign of functional activity, and negativity in the same circuit the sign of functional rest.

3. What was a negative (anabolic) focus during rest becomes a positive (katabolic) focus during activity.

This conception of changeable electric relation is based, among other reasons adduced by the author, upon the prior voltaic chemical relation, during which, in the complex chemism of living organisms, compounds of, for instance, hydrogen, carbon, nitrogen, or sulphur are produced at the negative element with the *absorption* of heat. Such compounds in inorganic chemistry are termed endothermic; they are more or less unstable, easily decomposable or even spontaneously decomposable or explosive. They *evolve* heat by their decomposition.

In functional activity, it is claimed that it is these unstable endothermic substances, formed by protoplasmic voltaic action during rest, which are decomposed with production of an electric current in an opposite direction ("negative oscillation").

It may be presumed that a neural impulse, efferent or afferent, initiates the explosion.

The superior power of the kathode in exciting physiological activity (including the phenomena of electrotonus) may be due to its increasing the already progressing formation of unstable or explosive material.

4. In addition to the storage-material synthetized by the animal itself, and furnishing during functional activity an electro-positive plate, the principal electro-positive fuel or oxidizable tissue is furnished by the food assimilated by the animal, which food is the result of the anabolic, storage, or constructive faculty of the plant.

5. The origin and initiation of an electric current and consequent polarity cannot be from the electro-negative plate of a voltaic cell, but the current arises from the initial chemical action at the electro-positive plate and therefore the starting-point of living chemical exchanges is in the electro-positive plate—that is to say, is katabolic, oxidizing, or destructive. At the negative plate energy is stored or rendered potential. The same is true of all the energies.

As a consequence, all metabolism, all chemical exchanges in living, animal organisms, are initially electro-positive, and if an anabolic, constructive or electro-negative focus is found by tests, it is not primary but accidental, and the result of the action of a conductively associated katabolic or oxidizing positive plate.

6. It follows that morbid metabolism, constructive or destructive, is primarily electro-positive.

7. This invariable focal positivity provides an accurate guide to medical treatment by electricity, for the morbid-tissue focus itself may be regarded in the same light as an artificial voltaic couple. The reactions following may be experimentally demonstrated upon an artificial cell.

8. Morbid metabolism may be divided into—

(*a*) Excessive chemical exchanges; (*b*) Deficient chemical exchanges.

In over-activity of the chemical exchanges—(*a*) An applied positive pole will increase the activity, *i. e.*, augment the disease; (*b*) An applied negative pole will diminish the activity, *i. e.*, palliate or cure.

In under-activity—(*a*) An applied positive pole will increase the activity, *i. e.*, palliate or cure; (*b*) An applied negative pole will diminish the activity, *i. e.*, augment the disease.

Two directions only are open for curative treatment. In over-activity the negative pole palliates or cures. In under-activity the positive pole palliates or cures.

9. If an electro-negative focus (here held to be secondary and incidental) is thought to be most desirable to be treated, the polarities indicated must be reversed.

This theory implies that vital processes are electrolytic and electro-synthetic, plus a directive tendency which is a mystery; it implies that the processes of living proceed according to electric laws, releasing by the electro-chemical action of oxidation, combustion, or katabolism, heat, mechanical, electric, and other energies, with the production of the waste-products of excretion—urea, uric acid, kreatinin, etc., and storing or rendering potential the same energies by the electro-chemical action of anabolism, with the production of formed chemical products essential, in the case of the animal, to its specialized existence—ferments, fats, glycogen, etc.

It claims as a speculative postulate, that the fundamental starting-point of both release and storage of energy, of the destruction and the construction of products, of katabolism and anabolism—of, in short, metabolism—is situated at protoplasmic foci consisting of protoplasm oxidized (or similarly attacked) and the oxidizing or attacking electrolyte of the protoplasmic voltaic couples—that the protoplasmic area attacked is therefore electro-positive, and that as a consequence of this initial action at the electro-positive area or element a secondary constructive, storing, and anabolic chemical reaction is accomplished at a protoplasmic electro-negative area or element—in short, that anabolism is secondary to and dependent upon the initial katabolism.

The theory also implies that the animal continually dies that it may live—that its constructive metamorphosis is initially dependent upon its destructive; and more concisely, as regards the constructive, that it is due to the chemical union of substances set free at the positive element by oxidation and allied actions, or there receiving a determining combining direction toward the negative element, and uniting with other substances at this negative element antecedently oxidized or not—that, in short, katabolism and anabolism are inter-

allied in an electro-chemical cycle composed of protoplasmic voltaic couples where katabolism initiates that movement which results both in waste products and in formed products, in released energies and in stored energies, in the currents of rest and of action, and which, when it ceases, is death of the part or of the whole.

It is this katabolic beginning, signalled by focal positivity, that we may hope to influence by an applied external energy and thus influence those life-processes that underlie it; and since this initial katabolic center is the source of heat, mechanical force, electric energy and of all the other phenomena of life, normal as well as morbid, we are in a position to suggest that this electric index of demonstrable and invariable electro-positive polarity is a guide which may enable the physician to thread the labyrinth of health and disease, and to apply a counter or an aiding energy in such a manner as to affect the normal or morbid phenomena by affecting their initial and underlying chemico-biological processes. As regards electric energy, it is believed that this may be accomplished in the manner outlined.

DR. NUNN stated that the theory of the chemical action should not be too exclusively adopted. Beyond it there is a great vital force or great unknown.

We talk of electricity flippantly as a fluid or force; we theorize with it; but we cannot say what it is. There is no doubt of its chemical action, but there is something besides in all cases. There is that vast field of static electricity which has little or no chemical action at all.

Magnetism more nearly resembles life-force than does electricity.

Keeping so closely to the chemical theory makes us lose sight of another great fact, that every molecule of the body is an independent being to a certain extent. Every single blood-corpuscle is in itself an independent being as far as it goes. In no other way can be explained the fact that the blood-corpuscle takes up its oxygen and nutrition and deposits them in the tissues and goes away again.

Clinically, Dr. Nunn has observed the following rule: Whenever there is tenderness upon pressure and inflammation, to use the positive, and whenever there is a swelling, as in tumors and chronic diseases, to use the negative pole.

In conclusion, DR. MORTON added that he dwelt especially upon chemical phenomena because he had to deal with what exists. The chemical life of the animal cell is an actual fact. He knew nothing about vital forces. He had never tasted, heard, or felt them; he knew nothing of entity or ideation. Vital force is just as much a mystery at the end as it is at the beginning, but the chemical affinity is a demonstrable fact—it is a thing.

DR. PLYM S. HAYES, of Chicago, read a paper entitled "Some Points in the Technique of Electrolytic Epilation," in which he maintained that, performed for therapeutic or cosmetic purposes, care should be taken to destroy the hair without leaving scars.

Theoretically, the needle to be employed in electrolytic epilation should be so constructed that it will reach the bottom of the hair-follicle and come in contact with the papilla, without doing violence to the tissues; it should be so arranged that the current will exert its electrolytic effects only at the point of contact with the papilla.

Dr. Hayes had early discovered that a blunt-pointed needle was much better than a sharp one, and a thin one than a thick one.

After a long series of experiments he came to the conclusion that steel was the only material that would give a needle of sufficient tenuity and yet having the strength and rigidity to accomplish the desired result.

The best material for the needle is found in the jeweller's "broach." This is ground to a diameter of from one two-hundreths to three two-hundredths of an inch. For one-sixteenth of an inch from the point it should be slightly thicker than the shaft; although this bulbous point is of advantage it is not an absolute necessity. The point of the needle should, as nearly as possible, represent a hemisphere. A conical point should never be used, because of the danger of piercing the walls of the hair follicle.

The temper of the jeweller's broach renders the steel exceedingly brittle; it has been found of advantage to draw the temper, in order to prevent breakage of the needle. This is best accomplished by heating in the flame of an alcohol lamp or Bunsen burner a glass tube of about one-fourth of an inch in diameter, closed at one end and containing the needle, until the tube begins to become slightly red, when it is put aside to cool. The needle will be found to be flexible, yet sufficiently rigid.

The strength of current required varies from three-fourths of a milliampère to a milliampère and one-half, and in rare instances possibly three milliampères. The strength of the current, however, must of necessity be regulated by the amount of chemical action which takes place around the needle, as well as by the amount of pain produced.

As a rule, the weaker the current, the longer the time required to destroy the tissue, including the hair-papilla. From three to six cells of the diamond carbon battery are usually sufficient.

If three or four storage cells are connected in series for tension, the current obtained from such a battery can be used.

The commercial current from an Edison plant has been successfully used. The pain produced, however, is ordinarily so great as to make its use undesirable.

The resistance in the circuit outside of the battery should be as little as possible. A battery with large cells and large elements is preferable to one with small elements.

In introducing the needle care should be taken that it follows the hair closely. The application should not last long enough to give rise to a subsequent scar.

If, by reason of the size and density of the hair and root sheaths, the needle is arrested before it has entered much beyond the neck of the follicle, the current should be permitted to pass until any adhesions that may exist are overcome.

CORRESPONDENCE.

PUBLICATION OF SOCIETY PAPERS.

To the Editor of THE MEDICAL NEWS,

SIR: If a foreigner be allowed to second an opinion advanced by an American in regard to the publication in American medical journals of papers read before

medical societies, I shall permit myself to do so on the strength of the editorial that appeared in The Medical News of September 12, 1891. It certainly seems to me to be the greatest mistake that a scientific society can commit to prevent the immediate and extensive diffusion throughout the whole medical world of the work done by its members; but this is what is constantly done in America, and what I have been sorry to notice repeatedly during my visits to your country. If American medical societies, as all the prominent European societies do, would publish their reports two or three days after each meeting, such reports would be of the greatest value to scientific investigators; but appearing as they do, rarely earlier than a few weeks after the meeting, and in too many instances a year later, these at all times important reports are not only not consulted by foreigners when they finally do appear, but, as a rule, are passed by altogether—not only to the detriment of correct bibliography, but also to the discredit of American scientific workers.

European societies, and particularly the prominent French medical societies, such as the Paris Academy of Medicine, the Society of Surgery, the Society of Hospital Physicians, the Biological Society, etc., do not only publish their reports promptly, but in order to promote a greater and more rapid diffusion of their proceedings, actually reserve to the members of the medical press a special table, where the stenographer of each journal takes his notes for the purpose of reporting immediately both the original papers and the discussion thereon, so that the very next day, for instance, after the weekly meetings of the Paris Academy of Medicine and the Paris Surgical Society, the principal medical papers appear, so that the physicians throughout the country know more or less *in extenso* what has occurred the day before at the meetings of the respective societies. Moreover, authors of original papers are allowed to communicate to the medical press extracts from their papers; and it will be readily admitted that no one is better able than the author to determine what he really intends to convey to his professional brethren.

I have often heard American physicians visiting Paris complain of the scant notice taken of American medical works in European medical literature, a fact solely due to the regrettable delay in publishing the transactions of American medical societies, which delay fully accounts for the other fact, that a subject when finally published in America *as new*, has already become an old story on this side of the great pond.

As it now is, the want of a prompt and extensive publication in the American medical press of the reports of original papers and discussion thereon which are presented at the meetings of American medical societies, has, in the minds of many European scientists, induced the mistaken idea that very little is being done in the United States in a strictly scientific sense, which thereby places the American medical profession apparently in a state of scientific inferiority as compared with other nations. Again, this apparent status of inferiority contributes to encourage the unfortunate belief that American medical diplomas are still obtainable through purchase by persons who have never gone through their regular medical studies or passed a university examination—a belief which, from my better personal knowledge, I have persistently endeavored to correct on every occasion that offered.

If I have taken the liberty to express myself so plainly, and to ask the intermediation of your estimable journal, my only apology is that, having spent several years in America, I have had ample opportunity to judge personally of the careful work and the thorough researches made by Americans in the medical domain. I have had the honor of completing my medical education and graduating at one of the prominent medical institutions of your country, and I feel all the more anxious that my European fellow-practitioners should know and be kept constantly *au courant* of the excellent work done in the United States in the medical line. I remain, my dear sir, most sincerely yours,

Arthur C. Hugenschmidt, M.D. (Univ. Pa.).
15 Rue de la Paix, Paris.

WASHINGTON DRINKING-WATER.

To the Editor of The Medical News,

Sir: Permit me to make a few statements in answer to an editorial which appeared in the issue of October 3d, and in which the drinking-water of Washington is directly blamed for the various intestinal disturbances with which many members of the recent Medical Congress were affected. Let us see how far this assertion may be regarded as just.

First, in regard to the drinking-water itself. By referring to The Medical News of April 9, 1887, you will observe that the number of bacteria in Potomac drinking-water during the summer and autumn, when not stirred up by very heavy rains, is quite low. When, however, in winter and early spring the water becomes clouded or turbid after heavy rains, the earthy matter causing the turbidity brings with it many bacteria. These disappear with the subsidence of the suspended matter. The Potomac water could not have contained more than 100 to 200 bacteria in a cubic centimeter at the time of the meeting. These bacteria are such as are constantly present in streams of any size uncontaminated by sewage. The water is therefore much safer than that of most large cities of this country.

On the other hand, the real cause of the intestinal disorders lies obviously in another direction. The continued and unparalleled hot weather in September, following upon the coolness of the summer, must have taken dealers in provisions everywhere by surprise. With an inadequate ice supply for the time being, a deterioration of the food was a matter of course. I observed several facts bearing directly upon this point during the hot wave.

It is a curious fact that the richly albuminous foods coming from distant places and passing through many hands, in which putrefactive bacteria might revel in the production of toxic products before they reach the table, foods not even sterilized by the ordinary processes of cooking (such as oysters, milk, ice-cream, etc.) should be implicitly trusted, and the uncontaminated Potomac water should receive all the blame. Again, most of the water drunk at this time must have been melted in ice, and this, I believe, is above suspicion.

If it should be shown in the future that Potomac River water is actually the cause of intestinal disturb-

ances among strangers temporarily residing here, we must assume that in this latitude the water bacteria are more irritating or toxic varieties of the same bacteria in northern streams. For this assumption there is no supporting evidence at present.

It is not my intention to imply in these brief remarks that the water-supply of Washington does not need serious attention, but the evils to be remedied do not appear to be inherent in the source of the supply, but rather in its distribution.

THEOBALD SMITH.

WASHINGTON, D. C.

THE DRINKING-WATER OF WASHINGTON.

To the Editor of THE MEDICAL NEWS,

SIR: While no apology is to be offered for the unfortunate atmospheric vicissitude that attended the late meeting of the Medical Congress and the apparent resulting disturbance of function in the gastro-intestinal apparatus of many of its members, yet what is said in a leading article of your issue of October 3d cannot in justice be overlooked, since it appears as a pointed criticism.

From a medico-topographical sense Washington is not a place that one would select as conducive to the highest state of health, but it compares favorably with other towns as regards the showing of vital statistics. Indeed, the records show that New York, Boston, Charleston, Hoboken, Lowell, Mobile, Newark, New Orleans, Savannah, Brooklyn, Jersey City, and a majority of other towns, have a higher death-rate than Washington. Besides, the young men of the Columbia Athletic Club, who had their aquatic training on the Potomac, have twice carried off the first honors at the Staten Island Regatta and at Boston, where the supply of microörganisms in the drinking-water is presumably a few millions less than that of our home supply.

As a matter of fact, no particular fault is to be found with Potomac water, which stands fourth in purity on the analytical table of the water-supply of the principal cities of the United States. To be sure, I never drink it, and have not touched a drop of water for months, except for purposes of ablution and swimming; nevertheless, I did not escape a slight attack of the prevailing endemic. Many of us remember withs orrow the similar affliction that overtook visitors to the Philadelphia Centennial. I fear, however, that if the truth were told, a different cause would be given for these expressions of remorse of a guilty stomach, and that there would be revealed certain irregularities and disregard of ordinary hygienic rules, the principal of which was immoderate use of iced drinks whose chief ingredient was not *water*.

IRVING C. ROSSE.

WASHINGTON, D. C.

PURPURA HÆMORRHAGICA, OR PELIOSIS RHEUMATICA?

To the Editor of THE MEDICAL NEWS,

SIR: THE MEDICAL NEWS of August 8, 1891, contained the report of "A Fatal Case of Purpura Hæmorrhagica," by Dr. D. J. Milton Miller, of Philadelphia. It appears to me that the case is one of peliosis rheumatica, and not of purpura hæmorrhagica. Indeed, the patient was a male, and we know that peliosis rheumatica is more frequent in males; it is just the contrary in purpura hæmorrhagica, or morbus maculosus Werlhofii. The pains and swelling of the joints are special to peliosis, and not to purpura. Eichhorst says that sometimes slight pain and swelling of the joints also appear in purpura, but in peliosis pain and swelling are decided. In the latter, spots in the mucous membranes, almost constant in purpura, are generally not observed. However, Kaposi in one case found hematuria, and in another ecchymosis followed by gangrene of the mucous membrane of the palate. Edema of the eyelids is very common in peliosis, but not in purpura. Also, the large size of the spots is more in favor of the disease that Schönlein named peliosis rheumatica than of purpura hemorrhagica.

It is true that some authors do not consider peliosis as a special disease, and include it in morbus maculosus Werlhofii. Thus Dieulafoy, in his *Manuel de Pathologie Interne*, treats peliosis in the same chapter as purpura, and says, with Besnier, that in the majority of cases it is a question rather of purpura with rheumatism than of rheumatism with purpura.

Jacconet, on the contrary, treats of purpura in the chapter on scurvy, and says that it is not to be confounded with rheumatism complicated with purpura. Birch-Hirschfeld also, in his *Lebrbuch der path. Anatomie*, makes a distinction between peliosis and purpura, and so do many others. For these reasons it appears to me that the case related by Dr. Miller must be considered a case of peliosis rheumatica.

Believe me, yours truly,

DR. DONINO CROSTI.

RIO GRANDE, ZACATECAS.

The foregoing communication was presented to Dr. Miller, who has forwarded the following reply:

THE objections made by Dr. Crosti in his letter are, to my mind, hardly warranted by a careful reading of my report in THE MEDICAL NEWS of August 8, 1891, even if one believes that peliosis or purpura rheumatica is an independent affection, and not a complication, or one of the forms of ordinary purpura, as it probably is. The nosological position of any disease is, I take it, to be decided by its most prominent features, and the resemblance it bears to some general type. Looking at the nomenclature of my case from this standpoint it certainly deserves to be classed with the hemorrhagic form rather than with the rheumatic form described by Schönlein. Barring the joint-symptoms, which were more marked at the onset, as a reference to my report will show, the symptoms were all those of the severer types of the former disease. The suddenness of the onset, the size and depth of the cutaneous hemorrhages and their tendency to become gangrenous, the invasion of the mucous membranes, the hemorrhages from the kidneys, the intestines and lungs, and the rapidly fatal nature of the attack, all point to this conclusion.

That the presence of the joint-symptoms made the attack different from the ordinary types of hemorrhagic purpura was recognized in the title of the manuscript sent to you, which was "A Fatal Case of Purpura Hæmorrhagica, with Joint-Symptoms," and which, for brevity's sake, was altered to the shorter title of the printed article.

But there are no hard and fast lines distinguishing the different forms of purpura. They merge one into the other, each case being classified according to its predominating symptoms—and as the case reported by me was of a decidedly hemorrhagic type, I feel justified in calling it by the name I did. D. J. MILTON MILLER.

PHILADELPHIA.

TOPICAL APPLICATION IN DIPHTHERIA.

To the Editor of THE MEDICAL NEWS,

SIR: Having used with signal success the following formula as a topical application to the throat in the treatment of malignant diphtheria, I make this report so that a thorough test of it may be made:

℞.—Acid sulphurosi	f ℥ss.
Liquor potassæ	gtt xl.
Aquæ calcis	ad f ℥iv.

Mix, filter; keep well corked, in a cool place. To be applied topically to the throat by means of a sponge, probably every hour or two.

Respectfully,

ERNST TIMMERMANN, M.D.

BATESVILLE, IND.

REVIEWS.

GUY'S HOSPITAL REPORTS. Edited by N. DAVIES-COLLEY, M.A., M.D., and W. HALE WHITE, M.D. Vol. xlvii., being vol. xxxii. of Third Series. 8vo., pp. xliii., 369. London: J. & A. Churchill, New Burlington Street, 1890.

THE present volume maintains the high standard of the reports from Guy's, and its value is enhanced by the frontispiece, an excellent autotype reproduction of a full-length photograph of Sir William Gull. The memoir of Sir William, with which the volume opens, is sympathetically written and is well worthy of careful reading and reflection by the ambitious young physician of the day. Mr. Davies-Colley's report of cases of anthrax is a noteworthy article, and his experience with the use of ipecacuanha, internally and externally, as recommended by Dr. Muskett (*Lancet*, vol. i. p. 268, 1888) is especially interesting. Of five cases thus treated, all recovered, although three of the five had anthrax of the neck and one was in great danger. Of eight cases previously treated without ipecacuanha, two died; in both of them the neck was involved. Mr. Percy C. Evans adds a note on the action of ipecacuanha upon the bacillus anthracis. His research shows that drug to have a very decided power to destroy the bacillus when growing in broth and free from spores. On the other hand, the powder was found to have no effect whatever on the anthrax spores even after acting twenty-four hours. This failure is of no importance as regards the therapeutic action of ipecacuanha, inasmuch as anthrax bacilli never produce spores in the living tissues. Emetine was found to have no action on the bacilli, and consequently the virtue of ipecacuanha must be due to some other constituent.

Hale White contributes an interesting paper on primary malignant diseases of the liver, and James F. Goodhart an instructive lecture "chiefly concerning bruits." The pathology and prognosis of pernicious anemia also receive attention from Dr. Hale White, who insists that it is a distinctive disease, characterized by the absence of the "ordinary causes or concomitants of the anemic state." In an appendix a summary is given of all of the cases of pernicious anemia that have died in Guy's Hospital from 1855 to 1889, both years inclusive. The fact that a number of patients discharged apparently well, afterward returned and died, taken with the fact that, with one exception, Dr. White was not able to get evidence that any of the cases discharged as improved during the last ten years have remained well, shows that the prognosis is very gloomy; and that, for the future, cases should not be recorded as having recovered unless they have been followed up for some years. Two cases of genuine recovery, one his own and one Dr. Pye-Smith's, find place in Dr. White's lists. Want of space prevents allusion to the many other excellent papers in this volume.

ADDRESSES, PAPERS, AND DISCUSSIONS IN THE SECTION OF OBSTETRICS AND DISEASES OF WOMEN AT THE FORTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT WASHINGTON, D.C., May 5–8, 1891.

THE papers contained in this pamphlet deal with a series of important subjects, both in obstetrics and gynecology. The benefit to the reader, however, is derived not so much from the general tone of the book as from the worth of a few preëminently good articles. The reason for this lies in the want of conservatism on the part of many of the writers on gynecological subjects. The papers on this branch are, for the most part, from the pen of those who look upon gynecology as a branch of surgery, and who are inclined to throw upon those whom they designate as minor gynecologists all the responsibility of ineffectual treatment. The first article, by Dr. J. G. Carpenter, of Stanford, Ky., on "Rapid Dilatation and Curetting," loses much of the effect of the sound teaching that it contains by emphasizing the fact that failures of diagnosis and misapplied treatment, notably dilatation and curetting on the part of the practitioner, are responsible for most of the evils that call for the surgeon's treatment. He fails to admit, however, that when the diagnosis is left to the surgeon, he is as apt to stumble as the "minor gynecologist."

As usual, the subject of technique in abdominal work comes to the front in these articles. This is an unfortunate indication. There is too much attention given to technique at the sacrifice of diagnosis. The pendulum has not yet ceased swinging between surgical enthusiasm and the belief in medical treatment in gynecology.

One of the most instructive articles is by Dr. Eliza C. Minard, of Brooklyn, on "Pathological Anteflexions of the Uterus." The writer reports a case in which Dudley's operation for anteflexion had been performed with good result. The writer resorted to this treatment not because she was an advocate of the operation, but because all other forms of treatment had failed; therefore, the results are judged by her without bias. This surely strengthens the recommendations that have been put forth by the originator of the operation, and demands that this method should have future trial.

Dr. Henry C. Coe, in a paper on "Adenoma Uteri," concludes his discussion of the treatment of this affection by stating that total extirpation alone is indicated, basing this conclusion on the assertion that there is only one variety of true adenoma, and that clinically this is essentially malignant. This is a new departure in the subject that must be considered with great care before criticising, inasmuch as it comes from one perfectly qualified to originate such a doctrine.

In obstetrics there is little that is original to which reference need be made. The only article which we have space to mention is that of Dr. Henry D. Fry, of Washington. He epitomizes the accepted opinion in regard to the treatment of eclampsia by the introduction of premature labor.

NEWS ITEMS.

Evening Lectures at the Polyclinic.—A series of lectures will be delivered during the coming winter in the evening at 8 o'clock by the members of the Faculty of the Philadelphia Polyclinic and College for Graduates in Medicine, of which the following are announced: Nov. 3d, Dr. Edward Jackson, Shadow Test; Nov. 6th, Dr. B. F. Baer, A Plea for Early Diagnosis; Nov. 10th, Dr. Edward Jackson, Shadow Test; Nov. 13th, Dr. B. F. Baer, The Treatment of Retro-displacements; Nov. 17th, Dr. T. S. K. Morton, Appendicitis; Nov. 20th, Dr. R. W. Seiss, Treatment of Aural Pain.

The Mississippi Valley Medical Association held its seventeenth annual session at St. Louis, Oct. 14, 15, and 16, 1891, President Dr. C. H. Hughes, of St. Louis, in the chair. Dr. C. A. L. Reed, of Cincinnati, was elected President; Dr. E. S. McKee, of Cincinnati, reëlected Secretary; Dr. C. S. Bond, of Richmond, Ind., and Dr. J. H. Stucky, of Louisville, Vice-Presidents; Dr. Joseph Ransohoff, of Cincinnati, Chairman of the Committee of Arrangements. The next meeting is to be held in Cincinnati, October, 1892.

Pan-American Congress.—The Committee on Permanent Organization of the American Medical Association has decided to change the name of the Association to the Pan-American Congress. The convention will be held in Washington on the first Tuesday in October, 1893. Dr. William Pepper, of Philadelphia, was elected President, and Dr. Charles L. Reed, of Cincinnati, Secretary-general.

Professor Binswanger has been made Ordinary Professor of Psychiatry at Jena.

BOOKS AND PAMPHLETS RECEIVED.

Prevalence of Astigmatism. By Charles W. Dodd, M.D. Reprint, 1891.

Fracture at the Elbow-joint. By Thomas H. Manley, M.D. Reprint, 1891.

Resection as a Substitute for Primary Amputation. By Thomas H. Manley, M.D. Reprint, 1891.

Tumors of the Naso-pharynx, Pharynx, Larynx, and Esophagus. By W. Cheatham, M.D. Reprint, 1891.

The After-treatment of Cases of Abdominal Section. By Charles P. Noble, M.D. Reprint, 1891.

Abdominal Surgery at the Kensington Hospital for Women. By Charles P. Noble, M.D. Reprint, 1891.

Unique Case of Cæsarean Section. By Charles P. Noble, M.D. Reprint, 1891.

Higher Education in Indiana. By James Albert Woodburn, Ph.D. Washington: Government Printing Office, 1891.

Medical Communications of the Massachusetts Medical Society. Boston, 1891.

L'Autre Voie à propos de l'Hysterectomie par la Méthode Pean-Ségon dans les inflammations pelviennes. Par le Dr. A. Doléris. Clermont (Oise): Imprimerie Daix Frères, 3 Place Saint-Andre, 1891.

Enucleation des Fibro-myomes Utérins par la Voie Abdominale, ses Avantages sur l'Hysterectomie Supra-vaginale. Par le Dr. R. Chevrier, d'Ottawa (Canada). Clermont (Oise): Imprimerie Daix Frères, 3 Place Saint-Andre, 1891.

The Treatment of Erysipelas. A Personal Experience in Fifty Cases. By Charles W. Allen, M.D. Reprint, 1891.

Clinical Comments on Cutaneous Cases. By Charles W. Allen, M.D. Reprint, 1891.

Pemphigus Circinatus. By Charles W. Allen, M.D. Reprint, 1890.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 20 TO OCTOBER 26, 1891.

BIART, VICTOR, *Captain and Assistant Surgeon.*—Having been found incapacitated for active service, on account of disability incident to the service, is, by direction of the President, retired from active service, to date October 21, 1891.

VICKERY, RICHARD S., *Major and Surgeon.*—Is relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., and ordered to duty at Fort Monroe, Va.

MUNN, CURTIS E., *Major and Surgeon.*—Upon being relieved from duty at Fort Monroe, Va., is ordered to duty at Mount Vernon Barracks, Ala.

CLEARY, PETER J. A., *Major and Surgeon.*—Upon being relieved from duty at Mount Vernon Barracks, Ala., is ordered for duty at Fort McPherson, Ga.

HAPPERSETT, JOHN C. G., *Major and Surgeon.*—Upon being relieved from duty at Fort McPherson, Ga., is ordered for duty at Fort Custer, Montana.

GARDNER, EDWIN F., *Captain and Assistant Surgeon.*—Will proceed from Fort Porter, N. Y., to New York City, N. Y., for temporary duty as Attending Surgeon and Examiner of Recruits in that city.

WATERS, WILLIAM E., *Major and Surgeon.*—Upon being relieved from dury at Fort Custer, Montana, is ordered for duty at Columbus Barracks, Ohio.

JARVIS, NATHAN S, *First Lieutenant and Assistant Surgeon.*—Is relieved from duty at Fort Bayard, New Mexico, and ordered for duty at San Carlos, Arizona Territory.

JOHNSON, RICHARD W., *Captain and Assistant Surgeon.*—Upon being relieved from duty at San Carlos, Arizona Territory, is ordered for duty at Fort Bayard, New Mexico.

BROOKE, BENJAMIN, *First Lieutenant and Assistant Surgeon.*—Is relieved from duty at Fort Riley, Kansas, and ordered for duty at Fort Leavenworth, Kansas.

KEEFER, FRANK R., *First Lieutenant and Assistant Surgeon.*—Upon being relieved from duty at Fort Leavenworth, Kansas, is ordered for duty at Fort Riley, Kansas.

MIDDLETON, PASSMORE, *Major and Surgeon.*—By direction of the President, will report in person to Colonel Melville A. Cochran, Sixth Infantry, President of the Army Retiring Board at Newport Barracks, Ky., for examination by the Board.

GANDY, CHARLES M., *Captain and Assistant Surgeon.*—Is granted leave of absence for fifteen days, to take effect on final adjournment of Army Medical Board, now in session in New York City, N. Y.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will upon publication be liberally paid for, or 250 reprints will be furnished instead of payment, provided that the request for reprints be noted by the author at the top of the manuscript. When necessary to elucidate the text, illustrations will be provided without cost to the author.

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